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Shaping the European Research Area (ERA) policy: the role of expert groups in the ERA Green Paper and beyond

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List of acronyms

AC	Associated Countries
ARMINES	Association pour la Recherche et le Developpement des Methodes et Processus Industriels, France
BERD	Business Expenditure on R&D
BSE	Bovine spongiform encephalopathy
CIRCITER	Climate Change Research and its Integration into Environmental Policy - project funded by the European Commission, Directorate-General for Research
CORDIS	Community Research and Development Information Service
COS NL	The Consultative Committee of Sector Councils for Research and Development in the Netherlands
CREST	EU Scientific and Technical Research Committee
DG	Directorate General (of the EC)
DG RTD	Directorate General for Research, Technology and Development
EC	European Commission
ECPR	European Consortium for Political Research
EG	Expert Group
EIT	European Institute of Technology
EMU	Economic and Monetary Union
EP	European Parliament
ERA	European Research Area
ERA-NET	European Research Area Network
ERC	European Research Council
ESF	European Science Foundation
ESFRI	European Strategic Forum on Research Infrastructures
ETAN	European Technology Assessment Network
ETP	European Technology Platforms
EU	European Union
EURAB	European Research Advisory Board
EUREKA	A pan-European network for market-oriented, industrial R&D
EuroHORCs	European Heads of Research Councils
EUROSTAT	European Community Statistics Office
FP	Framework Programmes
GP	Green Paper
IC	International Cooperation
ICT	Information Communication Technology
IPR	Intellectual Property Rights
IPTS	Institute for Prospective Technological Studies
JRC	Joint Research Centre
MS	Member States (of the EU)
OECD	Organization for Economic Cooperation and Development
OMC	Open method of coordination
PREST	Policy Research in Engineering, Science and Technology, University of

	Manchester
R&D	Research and development
RIs	Research Infrastructures
RTD	Research and technological development
SDME	Square de Meeus (DG RTD offices)
SF	Structural Funds
SI	Strategic Intelligence
SMEs	Small and medium enterprises
S&T	Science and Technology
STRATA	Strategic Analysis of specific policy issues
TA	Technology Assessment
ToR	Terms of Reference

Introduction

External expertise has become an important resource for the Commission policymaking. From initiation of policies to monitoring and review, the Commission relies increasingly on expert advice. The more complex the policy issues become, the greater the need for highly specialized knowledge, which the Commission obtains from external experts in their respective fields. As relevant as the Commission in-house expertise remains, it is often not enough to respond efficiently and effectively to policy issues which require a certain type of expertise that can only be obtained from calling upon experts working in technical and highly specialized fields. The Commission disposes of various mechanisms to get expert advice: setting-up expert groups, public consultations, hearings, workshops, conferences, seminars, calling upon the Joint Research Institutes, setting-up specialized agencies as well as commissioning studies by external consultants[1]. According to a study done by Gornitzka and Sverdrup (2007, pp.10-11), when compared to other mechanisms '*expert groups are by far the most frequently used'*. In January 2007 the number of expert groups set up by the Commission was 1237, with DG Research, DG Environment and DG Enterprise being so-called 'super users' of expert groups, all having 120 or more expert groups (Gornitzka and Sverdrup, 2007, pp.11-12). Experts have become important actors of the European governance: either as pro-active agenda-setters or as resources for policymakers (EC, 2001a, p. 2). However, what is less clear is the nature of the relation between the various sources of external expertise and Commission policymaking, and the specific contribution and actual role of expertise, whether in a short-term or long-term perspective. The White Paper on European Governance (2001), underlines that *it is often unclear who is actually deciding* – experts or policymakers; as such, the interplay between policymakers and experts has to be given greater attention. The focus

[1] Expert groups explained, http://ec.europa.eu/transparency/regexpert/faq/faq.cfm?aide=2

should be not just on the *policy outcome* but also on the *process* followed to reach that outcome. A recent report published by ALTER-EU[2] at the end of March 2008 argues that *"so far, in spite of their crucial role, very little has been written about Expert Groups; their place in the decision-making process, their influence, composition and methods of operation"*. However, the report goes more into the direction of analyzing the level of transparency of the Commission about its expert groups, rather than unveiling the actual role and impact of expert groups on policies. The report takes a hard stand on the lack of transparency of the Commission, and warns that industry lobbyists are dominating the European law-making process[3]. The report offers a lot of quantitative information about expert groups (total number of expert groups, number of expert groups according to the domains the experts belong to i.e. government, non-government, and industry). Yet, the report is not strong on qualitative evidence[4] to support its findings and conclusions. Bottom-line is that despite acknowledging the lack of thorough investigation into the role of expert groups and their impact on the policymaking, the report of ALTER-EU does not substantially contribute to the understanding of this topic. Quantitative information needs to be coupled with thorough qualitative evidence of the actual influence of expert groups on policymaking.

It is in this context that the thesis is situated to understand the role of expert groups in shaping the Commission policymaking for one specific case of policy: expert groups set up by DG Research (DG RTD) in the follow-up of the ERA Green Paper, adopted by the Commission on April 4th 2007.

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[2] ALTER-EU (Alliance for Lobbying Transparency and Ethics Regulation in the European Union): 'Secrecy and corporate dominance – a study on the composition and transparency of European Commission Expert Groups, March 2008, http://www.alter-eu.org/en/system/files/publications/expertgroupsreport.pdf

[3] ALTER-EU news feed, "Commission's Expert Groups dominated by industry", Brussels, March 25, 2008, http://www.alter-eu.org/en/news/2008/03/25/commission%E2%80%99s-expert-groups-dominated-industry

[4] The qualitative evidence presented in relation to the influence of expert groups on policies is only limited to the case of two expert groups. The evidence is presented in terms of possibility, but not full certainty. "They (Commission Vice-President Verheugen's words) were words that could have come straight from the report of the expert group". "The companies participating in the expert groups will almost certainly be involved in the construction of the demonstration plants", ALTER-EU report, 2008, pp. 17-18.

1. Expertise and policymaking

1.1 Why and how is expertise relevant for policymaking process?

The increased complexity and close linkages between economic, social and environmental issues have been crucial factors for the ever-more increased reliance on expert advice to inform decision-making, at all levels and stages of the policymaking process. Expertise contributes significantly to the initiation of policies, regulatory decisions, implementation, monitoring and evaluation. But, what has expertise to offer that makes it relevant for the policymaking process? Renn (1995) identifies four major functions that expertise has in the policymaking process: enlightenment function; pragmatic/instrumental function; interpretative function; catalytic function. All these four functions are meant to respond to the needs of policymakers whether they are formulating a policy, passing regulations or evaluating programmes. First, having an enlightenment function, expertise assists policymakers in identifying and framing problems, and in understanding the issues and the constraints of different options when designing and shaping policies. Policymakers need background information and factual insights to develop standards, to ground policies, and to provide information about the success or failure of policies (Renn, 1995, p. 148). Second, fulfilling a pragmatic/instrumental function, expertise provides the methods and necessary knowledge that enable policymakers to perform assessments and evaluations of the potential consequences of each policy option. Third, the interpretative function is based on the fact that expertise offers arguments, associations and contextual knowledge; as such, expertise assists policymakers in reflecting on their activities, and making them aware of social, cultural, institutional and psychological constraints as well as opportunities that are not easily grasped by common sense or instrumental reasoning (Renn, 1995, p. 148). Fourth, having a catalytic function, expertise provides the necessary knowledge to help policymakers design and implement procedures of policy formulation and decision-making in compliance with normative rules of reasoning and fair resolution of issues. In order to fulfill a catalytic function, experts need to be able to

play a role similar to a chemical catalyst by speeding up or slowing down, if necessary, the consensus building among the participants in the policymaking process (Renn, 1995, p. 148).

The insight into the four functions of expertise identified by Renn showed the various possible ways expertise can contribute and be relevant to the policymaking process. Of course, policymakers may seek expert advice for other purposes as well, beyond the scope of the four functions examined above. As such, there are instances when expertise becomes ammunition in political battles over sensitive and seldom controversial issues, covering areas as diverse as health and safety, animal and plant protection, the environment etc. Both supporters and opponents of a certain policy issue will use expert advice to enforce their views and argue for their cause. In such adversarial situations, the use and influence of expertise are hard to be preprogrammed; bits and pieces of knowledge will be used by whoever can get to them first and need them most to bolster their arguments (Wittrock, 1991, p. 348).
Another purpose for which expertise is sought is to reduce the political tension of policy issues. In this context, the problems policymakers are faced with involve a high level of complexity, which makes them fear the possible consequences of their full involvement and their actions. As such, expertise is requested to assist in reducing the tension and to depoliticize the issue at stake. Furthermore, there are cases when the relevance of expert advice is overemphasized by policymakers. The reason policymakers do that is usually linked to the fact that expert advice may serve their purposes; at the same time, expert advice may increase the legitimacy of their decisions and provide the opportunity to shift the blame on experts, in case the course of action and the results are not the desired ones. Shifting the blame or using experts as scapegoats (Renn, 1995, p. 149) occur in cases when policymakers rely on predictions that do not materialize in the long run; experts are blamed either for not warning policymakers in advance or even for providing supposedly wrong predictions.

Expertise has indeed a great part to play in the policymaking process; the relevance and influence of expertise rely to a great extent on the purpose for which it is sought, the

functions it fulfills, and the degree to which these functions respond to the needs of policymakers in various stages of the policymaking process. Furthermore, the role and relevance of expertise throughout the policymaking stages depends on another crucial factor: *the interaction between experts and policymakers*. Only looking at the producers of expertise and the characteristics of the domain they belong to it is not enough to understand the relevance of expertise at any given stage in policymaking; the argument to support this statement is given by the fact that the domains of both producers and users of expertise are not functioning in a void, or apart from each other; they communicate, interact, exchange views on issues etc. Analyzing this interaction is a key factor for understanding the process and the use of research results in a framework of political negotiation, rather than restricted to criteria sustained by scientific evidence (Albaeck, 1996; Bowen and Zwi, 2005).

The topic of expertise has gained a lot of attention in the literature on policy analysis, political science, and public administration over the last few decades. Extensive research has been conducted to help understand important aspects concerning expertise. In the next section a brief overview of existing studies may help reveal some important blind spots and missing links in understanding expertise and its relevance for the policymaking process. This brief overview will also serve to situate the thesis in the larger context of research on the role of expertise in policymaking.

1.2 Expertise and policymaking in theory

1.2.1 Measuring expertise utilization

A considerable amount of studies on expertise in policymaking belong to a traditional approach, which is based on the following underlying arguments: expertise is an input/product which accumulates over time; policymaking process is a linear process; both worlds (expertise and policymaking) are characterized by logical, rational processes. Throughout these processes experts ask the right questions, plan and conduct their studies in a rigorous manner, and circulate their results appropriately; at the

receiving end, policymakers read expert reports, understand the results and their implications, and act to correct their course in the direction indicated (Almeida and Bascolo, 2006, p.11). Studies belonging to this approach place a greater attention on one domain – domain of expertise.

A host of models have been developed to explain the use of research in policymaking: Weiss (1979) is cited in the literature as having first identified and described seven models to analyze and explain how research is used in policy formulation stage and how it guides the decision-making process; Knott and Wildavsky (1980), Jasanoff (1990), Kenkel (2005) have also focused their work on elaborating models and scales for measuring the use of knowledge in policymaking. The models designed to measure expertise utilization fail to integrate both domains (expertise and policy) in the analysis and to explain their interaction. In addition, empirical studies have been carried out for the analysis of the use of research in various policy areas. Healthcare, environment and education are priority policy areas for studies on this topic, and Canada, UK, Mexico are the countries for which these studies have been primarily conducted: Trostle et al. (1999); Landry et al. (2001); Hanney et al (2003); Estabrooks, Wallin and Milner (2004); Higgins (2004); Almeida and Bascolo (2006). Measuring expertise utilization (i.e. Knott and Wildavsky, 1980, climbing the ladder of utilization: transmission, reference, adoption etc) is an important approach if the main objective is to show whether expertise is used in policymaking and to what extent.

1.2.2 Process of interaction between expertise and policymaking

In contrast with the traditional perspective, the approach highlighting the process of interaction between expertise and policymaking argues against the rationality and linearity of the two domains – expertise and policymaking - and points out the fact that both domains are characterized by dynamic, complex and interactive processes. Both domains interact, and their interactions take many forms and are influenced by cultural differences, institutional pressures, networks, relationships, power, trust, and so on (Banthien et al., 2003, pp. 47-48). Knowledge and information do indeed get to be used

in the policymaking process and become part of the decision makers' argumentation and thinking; but, as opposed to the traditional perspective on expertise, this happens in a much more diffuse way that depends on several variables such as: policy content, interaction of actors, policymaking process, context (Walt and Gilson, 1994). Furthermore, according to this approach attention should be given to both domains - expertise and policymaking – and the ways and mechanisms used to ensure a dialogue among actors belonging to the expertise world and the policymaking world.

Studies based on this approach stress out important findings: analyzing and understanding the relation between expertise and policymaking demands a thorough understanding of the interaction/dialogue of two domains, both of which are characterized by a high level of complexity and for neither of which any generally accepted comprehensive models are available (Wittrock, 1991, p. 336); both domains have to be integrated into and explained in particular political and institutional settings; the interaction between experts and policymakers has to be assigned a greater value as a potential factor conditioning the ways research results are used in policies, while the actors' organization in networks is regarded as another crucial variable for facilitating such interaction and for guaranteeing that specific innovations are incorporated at given conjunctures (Almeida and Bascolo, 2006, p.16). Albaeck (1996), Bowen and Zwi (2005) argue that identifying and characterizing the actors (experts and policymakers) and their interaction are two key steps in understanding the process and the use of research results in a framework of political negotiation, rather than restricted to criteria sustained by scientific evidence. Knowledge, expertise[5], science, and social science research are terms used relatively interchangeably only to show the attribute whose impact on the policymaking process is being explored, but the objective focus remains the same (Kenkel, 2005, p. 17). The interaction between experts and policymakers has also been the focus of empirical studies for individual countries, and specific policy issues: Walt and Gilson (1994) study this interaction in the field of health policy in developing countries; Trostle et al. (1999) in the field of Mexican health policies.

[5] In this thesis the term used is expertise, and as it will be shown in Chapter 2, expertise, as defined at European level, covers a lot more than the knowledge coming from science domain.

1.2.3 Expertise and policymaking in a European perspective

The relation between expertise and policymaking has been studied in a European perspective as well. Expertise has come to play an increasingly significant role in the stages of preparation, implementation, monitoring and evaluation of European policies. For a series of issues ranging from climate change, employment policy, migration policy to genetically modified organisms, EU institutions need to rely on expert advice in order to: anticipate and identify the nature of the problems and uncertainties policymakers are faced with; take decisions; ensure that risks can be explained clearly and simply to the public (EC, 2001a, p. 2). The role of expertise is also recognized by the Treaties. For instance, the Treaty establishing the European Community recognizes the importance of facts and data in relation to policy issues in the field of health and safety, environment and consumer protection (Articles 95(3) and 174(3) of the TEC).

The Treaties are not the only source of evidence supporting the relevance of expertise for the policymaking process. There are Commission working papers, policy documents, and reports that deal particularly with exploring the relation between expertise and policymaking, as well as analyzing this relation for various cases of policy issues. Thus, developments at European level reveal that several issues concerning expertise are highly placed on the agenda, measures being taken in order to: clarify the notion of expertise, identify and map out the sources of expertise, set up guidelines for the collection and use of expertise, identify options and implications for 'democratizing'[6] expertise and establish scientific reference systems[7] etc. These developments were triggered and evolved in the framework of the widespread debate over the measures and actions for improving the European Governance. Furthermore, the relation between expertise and policymaking has been studied with regard to a range of specific issues, such as: BSE ('mad cow disease'), genetically modified

[6] The concept of democratizing expertise was developed in the report of the EC working group '*Democratizing expertise and establishing scientific reference systems' (2001).* Democratizing expertise is about guaranteeing 'due process' in the way expertise is developed, used and communicated. This implies fulfillment of several principles, such as: accessibility and transparency, accountability, effectiveness, integrity, pluralism etc.

[7] Setting up scientific reference systems corresponds to the need of organizing expertise to assist coordinated, prompt and effective policy responses at European level, with regard to several issues, and to enhance the function of early warning.

organisms, employment guidelines, standardization, and medical products. The studies have been carried out as part of Commission officials' work on the report '*Democratizing expertise and establishing scientific reference systems'*. The topics covered in the studies are mainly focused on the importance of problem definition in mobilizing the relevant expertise; provision of expertise; complex relations among risk assessment, risk management and risk communication (EC, 2001a, pp.10-14). Attention is greatly attached to the mobilization and use of expertise in the EU policymaking, but the studies do not reveal any focus on the interaction between experts and policymakers. However, as argued in several Commission documents (COM (2002) 713 final; EC, 2001b) the interaction between policymakers, experts, interested parties, and the public at large is a crucial part of the policymaking process, and of utter importance for understanding the making and shaping of European policies. The White Paper on European Governance (2001), underlines that *it is often unclear who is actually deciding* – experts or policymakers; in this context, the interplay between policymakers and experts has to be given greater attention. The focus should be not just on the *policy outcome* but also on the *process* followed.

In addition to all these developments and the attention received from the Commission, the relation between expertise and policymaking has been examined by various authors as well. These authors come from science domain (research institutes, universities etc) and have focused on exploring the relation between expertise and policymaking at European level. Weingart et al. (in a special issue of Minerva Journal, 37:2, 1999) contribute with substantial input in the framework of the project 'Climate Change Research and its Integration into Environmental Policy – CIRCITER'[8]. The input of the authors consists of providing an in-depth analysis of the development of climate change research, and the interaction of scientific expertise and policymaking in four European countries – England, Germany, the Netherlands and Sweden – as well as at European level. The authors conclude that the project is *one of the few attempts to assume a meta-analytical viewpoint, and to take the interaction between the production of knowledge on climate change and policymaking about climate protection as a*

[8] The project 'Climate Change Research and its Integration into Environmental Policy – CIRCITER' was funded by the European Commission, Directorate-General for Research, Research Theme 4 ("Human Dimensions of Environmental Change", Contract No. ENV4-CT96-0207)

problem of interacting discourses, and of the management of expert knowledge to be transferred among different domains. This perspective receives little if any attention in the communications on climate change, and yet all those involved should by now have gathered enough experience about the dynamics of these communications (…) (Weingart et al., 1999, p.104). Radaelli (1999) explores the relation between expertise and policymaking in the EU for three case studies: negotiation of economic and monetary union (EMU), direct tax policy, and media ownership regulation. The author tackles the relation between expertise and EU policymaking based on the following: on the one hand, it is argued that knowledge, in various forms, contributes to processes of learning, enlightenment, problem-solving, and policy change; on the other hand, public policymaking at EU level is in the *firing line because of its technocratic bias* (Radaelli, 1999, p.757). The findings of the three case studies reveal that expertise has a considerable impact, but does not go so far as to cancel a general trend towards politicization (Radaelli, 1999, p.767). Another policy area for which the relation between expertise and policymaking has been examined is the area of security policies. Liberatore (2005) addresses the issue of the role of expertise in shaping security policies in the EU context and in informing the democratic process; the author takes the particular case of biometric identification, an area where security considerations and their possible impacts are fundamental, and *where expertise is crucial* (Liberatore, 2005, p. 5).

The relation between expertise and policymaking has been examined in the case of European research and innovation policies as well. Some of the issues explored in the context of expertise and its relation to research and innovation policymaking at European level are: role of ***strategic intelligence*** in research and innovation policymaking, use of various tools and instruments[9] of strategic intelligence in formulating and shaping research and innovation policies, ways of mobilizing and distributing strategic intelligence in research and innovation policy arenas (Kuhlmann, 2002; Kuhlmann, 2003). Strategic intelligence for research and innovation policymaking is defined as *a set of - often distributed – sources of information and*

[9] Science and technology policy evaluation, technology foresight, technology assessment are examples of strategic intelligence tools (Kuhlmann, 2002, pp. 34-35)

explorative as well as analytical (theoretical, heuristic, methodological) tools employed to produce useful insight in the actual or potential costs and effects of public or private policy and management (Kuhlmann, 2002, p. 34).

At the same time, analyses focus on the connections among various domains (strategic intelligence, industry, society, policy), and the ways actors belonging to these domains interact in processes of competition, networking and attempts at consensus building (Kuhlmann, 2002, pp.25-27). The various positions and functions of strategic intelligence providers have been thoroughly explored for 13 case studies in the framework of the PRIME Forum Research Project focused on understanding 'Fora of Strategic Intelligence for Research and Innovation' (2006). The case studies cover 13 types of Fora for research and innovation policies in various European countries and at European level (e.g. Austrian Evaluation Platform, FUTUR in Germany, UK Technology Foresight Programme, Cooperative Indicator Development in France, COS-Workshops in the Netherlands, European RTD Evaluation Network initiated by DG Research etc), and are focused on exploring these Fora along two dimensions: *their function in the governance of research and innovation policy; the role of strategic intelligence in the various types of Fora* (PRIME Forum Research Project, Final Report, April 2006, p.3).

Muldur et al. (2006) analyze, among other things[10], the involvement and impact of various actors (including experts) in the process of preparing the 7th Framework Programme (FP7). The analysis covers in particular the mechanisms used by the Commission to gather the input of actors coming from a variety of sectors including public administrations, research institutes, universities, large companies, SMEs, international organizations, and so on (Muldur et al., 2006, p. 143). In addition, attention is greatly attached to analyzing the ways in which the input of various actors helped shape the FP7.

Examining how the relation between expertise and policymaking was dealt with in the work of various authors was not a comprehensive process, and it did not have the objective to be so; rather, it had the role of showing what are some of the main issues

[10] The book by Muldur et al. (2006) is focused on the design of the FP7, more precisely the factors that contributed to shaping the new FP, participating actors and their impact, and expected impact of the FP7.

authors focus on when studying expertise in policymaking at the European level, and what are the policy areas for which this relation is mainly explored. Even if the interaction of experts and policymakers is considered very important at European level (as shown in the work of authors, as well as in the Commission's reports, policy documents etc), little is known about the ways various sources of external expertise interact with policymaking, what the specific contribution and impact of external expertise are in the process of shaping policies. As one of the most frequently used sources of external expertise, expert groups deserve special attention and more systematic investigations of their role and impact on shaping Commission policies. As one recently published report of ALTER-EU concludes *"So far, in spite of their crucial role, very little has been written about Expert Groups; their place in the decision-making process, their influence, composition and methods of operation" (ALTER-EU report, 2008, p.6).*

2. Aim of the thesis

Apart from acknowledging that external experts have become important actors of the European governance, either as pro-active agenda-setters or as resources for policymakers (EC, 2001a, p. 2), little is known about their actual role and impact on shaping policies. Few authors (Gornitzka & Sverdrup, 2007; Larsson, 2003) who have actually studied the topic of expert groups and Commission policymaking have primarily focused on issues such as: functioning of expert groups, the way expert groups are used in the EU decision-making process, distribution of expert groups across time and EU policy areas. More recently the report published by ALTER-EU (March, 2008) tackled the lack of transparency and openness of the Commission when it comes to its expert groups. The report also recognized that little work has been done in relation to the role of expert groups in policymaking.

It is in this context that the thesis pursues a better understanding of the role of expert groups in the Commission policymaking, by using a conceptual approach that integrates both domains (expertise and policymaking) in the analysis. Based on the

dynamics and configuration of the interaction between expertise and policymaking, conceptual representations of the role of expertise in policymaking are given. Through an exploratory single-case study, the role of expert groups will be revealed for one recent development in the European Research Area (ERA) policy: follow-up of the Green Paper on the ERA, adopted by the Commission on April 4th 2007. It is important to stress that the thesis will use the process-based approach (the process of interaction between the expert groups and DG RTD) to analyze the role of expert groups in shaping the ERA policy. The thesis will not look into the processes and internal dynamics of expert groups and how these did or did not influence policy in any way. Equally, the focus will not be on the individual roles of the members of the expert groups (for instance the particular role of the chairperson, the rapporteur, or the rest of the members), but on the role of the expert groups as entities and the contribution of their collective input (their reports) to shaping the ERA policy. The primary focus of the thesis is on the seven ERA expert groups set up to deal with the seven ERA dimensions spelled out in the Green Paper: researchers, research institutions, research infrastructures, research programmes and priorities, knowledge sharing, international cooperation in Science & Technology (S&T), and the ERA vision (cross-cutting nature). These are the expert groups primarily set to deal with the issues in the follow-up of the ERA Green Paper. However, two other groups will be taken into account given their importance to the ERA policy and to the process of taking the ERA forward: the expert group on governance issues and links with the Lisbon Strategy, and Science in society (which per se is not an expert group, but several studies brought together to feed the 2007 ERA debate and consultation). The two expert groups have a cross-cutting nature, touching upon broader ERA-related issues.

Also, the thesis will not look into the level of transparency of DG RTD in relation to its expert groups; it will not provide a quantitative analysis (measuring expertise utilization by using scales, or any other types of quantitative indicators) of the impact of expert groups on shaping the ERA policy in the context of the follow-up of the Green Paper. The thesis will not draw conclusions about how balanced or not the membership of the expert groups was. The thesis is an exploratory single-case study of the role of expert groups in shaping the ERA policy in the follow-up of the Green Paper.

3. *Research questions*

The central research question is formulated as: ***What role did expert groups play in shaping the ERA policy dimensions spelled out in the Green Paper?*** Based on the approach used in the thesis to analyze the role of expert groups, the central question can be further elaborated. Thus, several sub-questions are used to guide the research and support the main question. The sub-questions refer to the two dimensions (logics of the domains and primacy of the domain) used by Wittrock (1991) to analyze the interaction between social knowledge and policy. The first sub-question (***What are the logics of the domains of expert groups and DG RTD?)*** is aimed at identifying whether the expert groups and DG RTD interacted in a close, mutual and direct manner (convergent logics), or on the contrary their interaction was distant and indirect (divergent logics). The rest of the sub-questions (***Who set the objectives in the follow-up of the Green Paper?; Did the reports of the expert groups influence the ERA policy developments?; Is DG RTD going to use the reports to feed the ERA policy developments?)*** are targeted at exploring the cases of scientific primacy (expert groups' influence on policy developments) and policy primacy (DG RTD influence on policy developments).

It is possible to have various configurations (technocratic, policy-learning, enlightenment etc) of the interaction between expert groups and DG RTD obtained as a result of linking the nature of their logics and the type of primacy. These configurations conceptually reflect the role of experts in shaping the ERA policy developments. However, the conceptual dimension will be enriched with empirical evidence to increase the accuracy of the actual role of experts. The intent of using the Wittrock's concepts is not to squeeze reality (actual role of expert groups in the follow-up of the Green Paper) in one model or another, but to use the concepts as a guiding tool for analysis and strengthen it with empirical evidence.

4. Structure of the thesis

The first part of the thesis (chapters one to three) aims at setting out the theoretical ground, and the last part (chapter four) presents the empirical work on the role of expert groups in the follow-up of the ERA Green Paper. Chapter five contains the overall conclusions of the thesis. In the following, a brief overview of the content of each chapter will be given.

Chapter 1 spells out the context in which the research is situated, the aim of the thesis, as well as the research questions.

Chapter 2 examines and defines a series of concepts related to Commission policymaking, expertise, external expertise, expert groups. Second, another key objective of this chapter is to reveal the conceptual framework for the analysis of the role of expert groups in the follow-up of the Green Paper.

Chapter 3 explores the main developments of the ERA policy: how the ERA came to be, how it evolved from an idea to the status of a practical policy, built on many different dimensions, and what the new context for the ERA looks like.

Chapter 4 explores what role expert groups played in shaping the ERA policy in the follow-up of the Green Paper. Exploring the role of expert groups will be guided by a conceptual framework that integrates both domains (expertise and policymaking) in the analysis, and leads to conceptual representations of the role of expertise in policymaking. These conceptual representations will then be enriched with specific empirical evidence obtained from members of the expert groups and DG RTD.

Chapter 5 highlights the overall conclusions along several axes: looking back, taking stock, and looking ahead.

The *research methodology* is explained in a separate section as part of the Appendix. Why the case study approach? What research methods were used? and What was the method of analysis? - these are the key questions the section on research methodology will address.

External expertise and Commission policymaking

The objective of this chapter is twofold. First, a series of key concepts, frequently used throughout the thesis, will be examined and defined. Such key concepts refer to Commission policymaking, expertise, external expertise, expert groups. Policymaking at European level designates complex patterns of collective action, throughout several policy stages (agenda setting, policy initiation and shaping; policy decision; policy implementation, monitoring and review), wide range of rules and procedures applicable in each stage of the process, and constant interactions among heterogeneous actors, representing different societal subsystems - EU institutions and its consultative bodies; science institutions; industry; society; experts etc. All these heterogeneous actors are engaged in processes of competition, networking and attempts at consensus building, and they interact in connected arenas, being subject to a set of variables: rules of interaction, action orientations, interests, distribution of power, rules entrenched in the organizational context actors come from (Benz, 2007, p.4). Analyses of policymaking in connected arenas are, to some extent, based on network models, but they also include elements of hierarchy, competition and negotiations. Policymaking at European level involves all types of interactions (networks, competition, and negotiations) at each stage of the policymaking process. This is but a brief picture of what policymaking at European level entails. The focus of the thesis in not to investigate all the stages of European policymaking process, nor to analyze and explain, using several models and concepts as suggested in the work of various authors[11], all the possible interactions among the heterogeneous actors involved. The thesis will only examine the interaction between two categories of actors - expert groups and DG RTD – in the follow-up of the

[11] For instance, Richardson (2006, pp.6-7) argues that the complexity of European policymaking calls for the use of multiple models and concepts in order to analyze it as accurately as possible: epistemic communities model can be used in the stage of agenda setting; policy network model in the stage of policy formulation; institutional analysis in the stage of policy decision; inter-organizational behavior and implementation analysis in the stage of policy implementation.

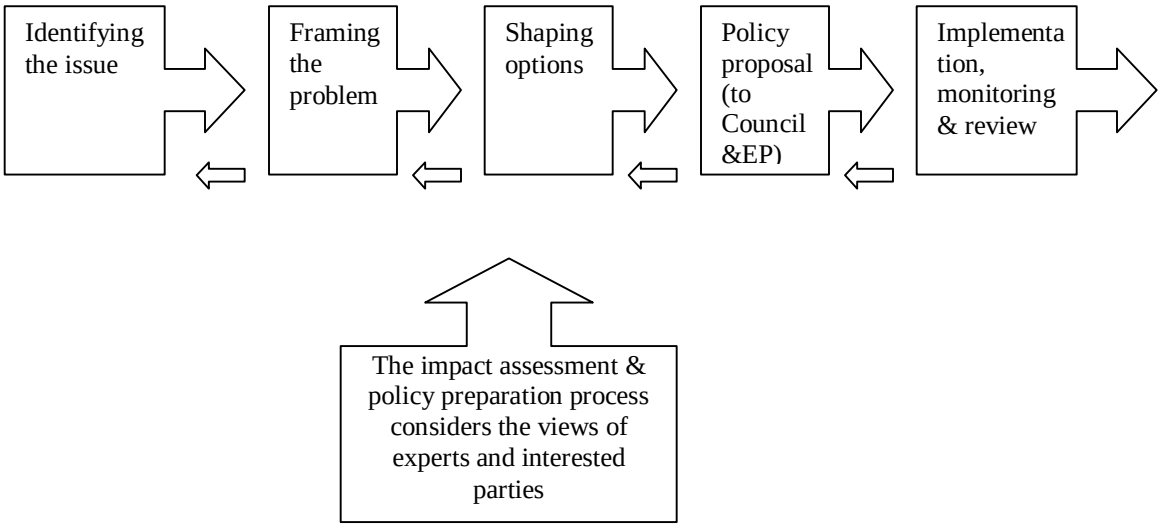
ERA Green Paper. The follow-up of the ERA Green Paper is the stage corresponding to the consultation launched by DG RTD on the issues raised in the Green Paper.

The early stages of the Commission policymaking will be explored with an illustration of how European research policy is initiated and shaped, main actors involved, their overall role, objectives and interests. Furthermore, an insight will be given into what external expertise means for the Commission policymaking, what sources of external expertise are used by the Commission, and what principles are applied when calling upon external expertise. The second objective of the chapter is to reveal the conceptual framework for the analysis of the role of expert groups in the follow-up of the ERA Green Paper.

2.1 The role of the Commission in initiating and shaping policies

Figure 1 Consultation of experts and interested parties[12] in the stages of Commission policymaking process

Note: The Commission may consult both experts and interested parties. Consultation of experts can take place at any stage in the policymaking.



[12] An interested party is defined as an individual or group that is concerned or stands to be affected – directly or indirectly – by the outcome of a policy; or represents the general interest of groups concerned by such an outcome, within and outside the EU (COM (2002)713 final, p.3)

Source: (COM (2002)713 final, p.8)

In complex policymaking systems, such as the European Union, the ways policies are initially formulated and shaped have a strong influence on policy results and outcomes. These early stages of the European policymaking designate a substantial level of dynamism: interactions occur among a wide range of actors representing policymakers, stakeholders, experts, public at large; policy issues are framed and re-framed; there is a transfer of issues from one level to another, from national policy arenas to European arenas and vice versa, and up and down between venues of '*high politics'* of European summits and the sphere of '*low politics'* with its specialized policy communities (Princen and Rhinard, 2006, pp.1119-1120). The Commission is an important player in the early stages of policymaking, especially when looking at the formal rules of procedure. The Commission alone has the formal power to initiate and draft legislation, which includes the right to amend or withdraw its proposal at any stage in the process; the Commission is also an active player in formulating new policies - Article 221 TEC, ex-155 (Hooghe & Marks, 2001, p. 12). The Commission's influence in the early stages depends on several factors: ability to anticipate and mediate demands, access to information, capacity to employ expertise, both in-house as well as derived from external sources. For instance, in terms of access to information and expertise, the Commission has superior in-house knowledge concerning agriculture, where one-fifth of its staff is concentrated, and it has a substantial level of expertise in external trade and competition, the two other areas where Commission competence is firmly established. In emergent policy fields, the Commission relies upon seconded national experts from Member States, its extensive advisory system of public and private actors, and paid consultants (Hooghe & Marks, 2001, p. 13). Even though the Commission has a crucial role, it also responds to the comments, recommendations, options put forwards by other actors also engaged in stages of formulation and shaping of policies: the European Council, the Council of Ministers, the European Parliament, the European consultative bodies (the Committee of the Regions, the Economic and Social Committee), stakeholders, experts etc. It is inaccurate to claim that the Commission's

role consists of either being an agent or a dominant principal in the interactions with other actors; instead, the Commission operates in a system of multi-level governance involving competition and interdependence among itself and other actors.

2.2 Making and shaping the European research policy - where, who and *how*

The making and shaping of European research policy takes place in multi-actor, multi-level arenas. The wide range of actors participating in the research policy arena have different responsibilities (policymakers define programmes, allocate budgets; researchers define themes, purchase equipment; industry looks for competitive advantages etc) as well as different interests. Furthermore, they represent different stakeholders' perspectives, construct different perceptions of 'reality', and refer to diverging institutional 'frames'. Next, the key actors interacting in these arenas will be analyzed in terms of the domains they belong to, as well as the nature of their interests.

- *Science domain*, represented by universities, non-university public research institutes, or related professional associations like science councils etc. Some of the interests of this group of actors are related to further development of the involved researchers' scientific reputation and academic career; to consolidation and extension of a given disciplinary or thematic area; to training of young researchers etc;
- *Industry domain* represented by research and development labs of multinational enterprises, or by industrial research associations. This group of actors has interests related to: exchange of pre-competitive technological knowledge, creation of new knowledge through research cooperation with other companies or public institutes, joint development of technical norms and standards, realization of new products and processes etc;
- *Society domain*: when it comes to this specific group of actors, there is an increasing diversity due to the ongoing differentiation of societal interests. For instance, different representatives of environment groups, consumer groups, and of other non-governmental organizations seek for active participation in the

research policy arenas. In addition, this domain also covers the public at large. Taking into account the heterogeneous nature of their objectives and perspectives, it is rather difficult to map out their typical interests in research policy arenas;

- *The politico-administrative domain,* mainly composed of representatives of the parliament, governmental institutions etc. The construction, empowerment and functioning of this group of actors differs according to the level of analysis: regional, national or transnational level. At the transnational level, the main actors are represented by: European Commission, Council of Ministers and European Parliament. In terms of the interests of actors belonging to the politico-administrative domain, their most stable interest relates to the 'conservation' of the institutional and procedural environment, whereas, when it comes to policy 'content' (i.e. research themes, technologies etc), their interests are more flexible than those of the 'science' and 'industry' actors (Kuhlmann, 2002, pp.25-26)

As noticed, the research policy arena is the locus of interaction of competing actors and no dominant player. Normally, in these arenas, actors belonging to the politico-administrative system (regional, national or transnational) have an important, but not dominant role. In many cases, they perform the function of a mediator, facilitating alignment between other actors, rather than operating as a top-down steering power. 'Successful' policymaking normally means compromising through re-framing of actors' perspectives and joint production of consensus (Kuhlmann, 2001, pp. 953-976).
From this dynamic research policy arena, the focus of analysis will only be on the interaction between two types of actors: Commission policymakers represented by DG RTD and expert groups set up by DG RTD in the follow-up of the ERA Green Paper.
A study carried out by Gornitzka and Sverdrup (2007) showed that research policy is one of the areas where a considerable number of expert groups are set up to help advice on various policy issues. "(…) more than 75% of all expert groups in the Commission are related to ten DGs. (…) Within the first group we find three "super users", consisting of DG Research, DG Environment and DG Enterprise, all having 120 or

more expert groups. Taken together these three organize approximately 30% of all expert groups" (Gornitzka and Sverdrup, 2007, p.12). The topic of expert groups in the Commission policymaking has been the focus of studies of several authors (Larsson, 2003; Gornitzka and Sverdrup, 2007; ALTER-EU report of March 2008). The issues that feature most in the work of the authors refer to: functioning of expert groups, distribution of expert groups across time and EU policy areas, matters of transparency and openness about expert groups. However, little is known about the role of these expert groups in various policy areas where they are set up, their interaction with the concerned DGs, and their actual impact on shaping policies (going beyond general statements that expert groups have a big role to play, or in other cases, that they have no role whatsoever). In this context, the thesis will take one of the representative DGs in using expert groups (DG RTD) and explore the role of expert groups in shaping research policy in the follow-up of the ERA Green Paper. Generally, the role of expert groups is portrayed as being that of supporting DG RTD in developing new proposals. More work is needed (across thematic and horizontal issues) to find out what exactly the impact of these expert groups is. Are the expert groups reinforcing the policy line and the initiatives of DG RTD, or are they infusing new ideas meant to trigger changes with a better impact on policy developments? This is but a brief illustration of the possible roles/impact of expert groups. It is in this context that the interaction between expert groups and DG RTD will be analyzed to pursue a better and more specific understanding of the role of expert groups. However, this is a specific case (follow-up of the ERA Green Paper), and findings cannot be extrapolated to the entire research policy and to the role other expert groups might have or not on policy developments.

2.3 Expertise in the Commission policymaking

What is expertise and how does it work? was one of the three main issues[13] tackled by the working group on '*Democratizing expertise and establishing scientific reference systems' (2001)*. In answering this question, the working group drew upon the Commission's own knowledge and experiences, contributions from external consultations, and relevant research, studies and other published documentation[14]. According to the findings of the working group, expertise refers to a variety of forms of specialized knowledge, which can be part of the in-house or external type of expertise. The in-house type of expertise is found within or in close connection to the EU institutions and agencies, and the national administrations of Member States: EU institutions' officials own knowledge in administrative, economic, legal and technical matters; research undertaken by the Commission Joint Research Centre, extended through networks involving a broad range of organizations; European Agencies; experts appointed by Member States to the Commission's 'comitology' committees and the Council's working groups. The external type of expertise mainly comes from the following sources: academia, consultancy, special advisory bodies and committees set up to provide expert advice in various policy fields (e.g. European Research Advisory Board - EURAB[15] in the field of research and innovation policy).

Expertise may be used to advise governments or the private sector and/or contribute to public debate. Experts may be called upon by those seeking knowledge, or they may act

[13] The other two main issues referred to in the report are: the meaning of democratizing expertise (including possible misunderstandings) and options for achieving it; and the identification of needs and features of European reference systems.

[14] A host of such studies and reports can be found on the governance website of the Joint Research Centre (JRC) http://governance.jrc.it/. Their focus is on 'governance and expertise issues' and include: relevant documents of the JRC in the field; Commission working style (precautionary principle, openness, feedback and comitology), CERCLE initiative, working group on scientific reference, towards a food safety authority, public attitudes to science, guidelines on the use of scientific advice in policymaking in other countries (UK, Canada).

[15] EURAB is a high-level, independent, advisory committee created by the Commission to provide advice on the design and implementation of EU research policy. EURAB is made up of 45 top experts from EU countries and beyond. Its members are nominated in a personal capacity and come from a wide range of academic and industrial backgrounds, as well as representing other societal interests. EURAB focuses its attention on the realization of the European Research Area and the use of policy instruments such as the Community RTD Framework Programmes, EURAB website http://ec.europa.eu/research/eurab/index_en.html

on their own initiative. *Expertise is increasingly understood in a very broad sense, encompassing the knowledge coming from natural and social sciences, as well as the knowledge coming from specialized practices (e.g. administration)* (EC, 2001a, p. 2).

The sources of science-based expertise play a great part in policymaking in various political and institutional settings (regional, national, European). The sources of scientific expertise may include various types of institutions, more or less formal: academic research institutes, think-tanks, advisory councils and expert committees. The more complex the tasks of policymakers, the more important the sources of scientific expertise become (Timmermans and Scholten, 2006, pp.1106-1107). Even though science is still a key source of expertise, it is no longer the ultimate venue of trusted knowledge at European level, partly on account of close links of science and technology with other relevant domains: economy, society and policy. Furthermore, the relations between science-based expertise and other types of expertise are far from easy. As the findings of the report '*Democratizing expertise and establishing scientific reference systems'* show, this is due to the fact that "*it is already difficult to make the different areas of science interact; to make them interact with other forms of knowledge (e.g. practical knowledge) requires additional efforts. (…) Furthermore, it is difficult to discern when expertise provided by 'stakeholders' is an input to the broadening and cross-checking of the knowledge base, and when this is part of 'claiming a stake'"* (EC, 2001a, p. 6). Diverse types of expertise can be needed depending on the functions, stages and time horizon of the policymaking process. Specific examples can be found in relation to policy evaluation (e.g. regulatory impact assessment or business impact assessment), the working of specialized agencies (e.g. concerning risk assessment and other tasks), and the role of networks (e.g. in fostering knowledge development and use) (EC, 2001a, pp. 6-7).

The Commission keeps a high level of in-house expertise to cover its needs throughout the policymaking process. However, it is also one of the Commission's tasks "*to consult widely before proposing legislation and, wherever appropriate, to publish consultation documents*" (Protocol, no. 7, Amsterdam Treaty). As such, there is a panoply of mechanisms used by Commission policymakers to bring input from as many actors as possible. As a general practice, each Commission department, according to the

issue at stake, uses its own mix of (complementary) consultation tools/mechanisms to get the views and opinions of various actors. These mechanisms may take the form of Eurobarometer opinion polls (whenever the public opinion on major topics is needed); formal stakeholder consultation (classical approach to consult interested parties); workshops, conferences, and seminars; expert groups and advisory committees (with the purpose of fostering an exchange of information and opinions between experts and the Commission on a particular issue) (Muldur et al., 2006, pp. 144-147). In principle, the mechanisms frequently used by Commission policymakers to bring expertise in the policymaking process cover the following: online open consultations[16], which are meant to ensure a broader interplay between policy-makers, experts, and the public at large; external (commissioned) expert studies and reports; meetings and workshops with external experts.

In all cases when expertise is sought from various sources, the Commission has to apply a series of *core principles*: quality, openness and effectiveness (COM (2002) 713 final, pp. 9-10). When it comes to *quality of expertise*, three determinants are identified: excellence; the extent to which experts act in an independent manner; pluralism (it implies taking into account the diversity of points of view, the multi-disciplinary and multi-sectoral expertise). *Openness* should be pursued in both seeking and acting on expert advice. The main areas for which openness is highly required are: framing the policy issues; selecting the experts; handling the results; communication with interested parties and the public at large. However, the level of openness should be proportionate to the task at hand, in order to avoid unintended consequences, such as: damaging the quality of advice or the legitimate interests of the involved parties. All methods and mechanisms used to bring in external expertise should be in compliance with the principle of *effectiveness.* To be effective, the methods and mechanisms should be designed in proportion to the task at hand, taking account of the sector concerned, the issue in question, and the stage in the policy cycle (COM (2002) 713 final, p. 10).

[16] A note of clarification is necessary for the type of consultations with other EU institutional actors – Council and Parliament, as well as with the EU advisory bodies (the Economic and Social Committee and the Committee of the Regions. These type of consultations do not have as primary goal to bring in expert advice. They are natural steps throughout the EU policy making process, and are organized whenever the Commission initiates policy proposals. The goal of these consultations is to increase the legitimacy of the proposal and build political support.

The process of identifying and selecting experts is also guided by a number of relevant criteria. Priority is given to: maintaining a balance between scientific knowledge and practical knowledge; national spread; gender balance; using the snowball technique as well as the network approach in identifying experts[17]. Furthermore, when identifying and selecting experts, fresh ideas and insight should be sought by including individuals outside the concerned department's habitual circle of contacts. Both mainstream and divergent views should be considered, but it is very important to distinguish between comprehensively discredited theories and those supported by plausible evidence (COM (2002) 713 final, p. 12).

2.4 The conceptual framework

The role of expert groups in shaping the ERA policy in the follow-up of the Green Paper will be explored using a conceptual framework that captures and integrates both domains (science/expertise and policy). The conceptual framework will be used to guide the analysis of the interaction between expert groups and DG RTD; while the specific empirical evidence gathered through interviews with experts and policymakers will enrich and strengthen the analysis.

Walt and Gilson (1994) draw attention in their work to the fact that expertise does indeed get to be used in the policymaking process and becomes part of the decision makers' argumentation and thinking; however, this happens in a diffuse way that depends on several variables such as: policy content, interaction of actors, policymaking process, and context. In the same line of reasoning, Almeida and Bascolo (2006) argue that interaction between experts and policymakers has to be assigned a greater value as a potential factor conditioning the ways research results are used in policies. In trying to solve the "truly challenging task that any analysis of the interaction between research and policy takes on", Wittrock (1991) proposes a different

[17] Interview with the head of Unit in charge with the European Research Area Policy, Brussels, SDME, July 18th 2007

approach than the one found in the models of expertise utilization. Wittrock's approach is based on analyzing both domains (science and policy) and conceptually exploring their interaction. This approach will be taken up in the thesis to pin down the nature of the interaction between expert groups and DG RTD, and to explore the role of expert groups' input on shaping the ERA policy. Wittrock analyzes the relation between science and policy along two dimensions: primacy of the domain and logics of the domains. Linked in various configurations - either primacy for science or primacy for policy; and convergent or divergent logics of the domains – the two dimensions form eight models brought together under what Wittrock calls the matrix of social knowledge and policy. The matrix has various degrees of complexity/elaboration, mostly dependent on the logics of the domains. Thus, in the main matrix of social knowledge and policy (enlightenment model, bureaucratic model, technocratic model, and engineering model) one of the two domains has primacy over the other or vice versa, while their operating modes are either convergent or divergent. However, difficulties are encountered, as Wittrock concludes, when making this matrix operational. *These types of difficulties have served as a starting-point for efforts to elaborate models (…) that would be both descriptively accurate and conceptually more powerful* (Wittrock, 1991, p.344). As a result, in the extended matrix of social knowledge and policy (policy-learning model, social-problem-solving model, dispositional model, and adversary model) the dimension of primacy is maintained, but changes are operated at the level of the logics of the domains. What makes the models in the extended matrix different from the basic ones is the premise that the logics (operating modes), while not identical, are roughly analogous and compatible and thus, for example, allow for processes such as long-term learning to occur (Wittrock, 1991, p. 344). Next, the characteristics of the models covered by the main matrix of social knowledge and policy will be revealed.

2.4.1 The main matrix of social knowledge and policy

Figure 2 The main matrix of social knowledge and policy

Logics of the domains	Primacy for science	Primacy for policy
Convergent logics	**Technocratic model**	**Engineering model**
Divergent logics	**Enlightenment model**	**Bureaucratic model**

Source: (Wittrock, 1991, p. 341)

The *enlightenment model* is characterized by diverse logics of the two domains and by a position of primacy given to social science research. In other words, this model focuses mainly on the role of research and less on the policymaking process. The role of research is not so much seen as solving problems, but as providing an intellectual setting of concepts, propositions, orientations and empirical generalizations. In time, all these ideas come to play an important role in how policymakers define problems and the options they examine for coping with them (Wittrock, 1991, p. 337). Furthermore, the model assumes that the two domains (research and policymaking) are not compatible and that no attempts should be made at treating them as basically identical.

In opposition to this model stands the *engineering model*, whose features are related to the following: unitary logics of the two domains together with a position of primacy given to the policymaking. The engineering model assumes that the role of research consists of producing, by means of proper planning, neatly delimited bits of input for the policymaking process (Wittrock, 1991, p. 338). This role can be achieved in the context of close interactions between the domain of research and that of policymaking.

In Wittrock's view, the two models discussed above form the main point of attention in the framework of the analysis of the interaction between policy and social science. Nonetheless, two other models (technocratic model and classical bureaucratic model) come into play and complete the framework of analysis.

The *technocratic model* assumes that, in the context of the huge 'capacity deficits' many governments are faced with and the high level of uncertainty, research can decisively contribute to the improvement of the policymaking process. The contribution can be made and its positive effects noticed provided research and analysis are given

proper primacy. Wittrock mentions some of the ways research and analysis can contribute to a systematic and more structured approach to societal policymaking: systematic training of leading policymakers, radical increase in the use of analytical techniques and 'think tanks' (Wittrock, 1991, p. 339). Another assumption of this model is that the two domains operate in terms of unitary logics.

The *classical bureaucratic model* gives a primacy position to the policymaking domain. Policymaking process evolves in a 'rationally and hierarchically ordered administrative apparatus which is basically concerned with the application of formal sets of rules and laws' (Wittrock, 1991, p. 339). In addition, the model assumes diverse logics of interaction between the two domains. In this line of reasoning, as Wittrock points out, the main focus is on the need for legally and administratively trained personnel who are competent in the application of rules and laws, but who have little or no need for any kind of social-scientific knowledge.

Wittrock concludes that the four models in the main matrix of social knowledge and policy are not only a vehicle for conceptual analysis, but they also represent secular trends in the evolution of social knowledge in changing societal contexts. As an illustration, the enlightenment model can be seen as a roughly accurate model for the social role of research during a specific historical context. Similarly, the classical bureaucratic model is clearly a more adequate representation of the operation mode of European administrations during the first half of this century (Wittrock, 1991, pp. 342-343).

Applying the four models in specific contexts of interaction between science and policy will result in a broad conceptual representation of the interaction between science and policy. Furthermore, the models are also representations of the role of science in policy, which means that each model gives an indication of how science contributes to policy enlightenment (providing an intellectual setting of concepts, propositions, orientations and empirical generalizations in support of policy), policy improvement by reducing the level of uncertainty etc. To give more concreteness to these broad orientations, appeal needs to be made to empirical specific information. This is but one direction in which the models need to be under further reconsideration. The complexity of the actual interaction between science and policy often goes beyond the scope of the

models, and difficulties are encountered in seeing how these models could be a useful tool for analysis. Wittrock provides examples of such difficulties. First, in the case of the two models assuming significant divergence between the operating modes of the worlds of science and policy in terms of missions and mandate (the enlightenment model and the classical bureaucratic model), the lack of interaction is entirely understandable. On the other hand, it is very difficult to imagine how, for instance, any enlightenment at all could occur. It is even more difficult to see how the advocates of enlightenment can be so confident that, over the long haul, the results of good research will somehow eventually influence the policymaking process. Second, in the case of the two models assuming convergence between the operating modes of the worlds of research and policy, the difficulty comes from facing up the fact that the expected interaction fails to occur; often enough both researchers and policymakers simply seem to refuse to be preprogrammed in the way the technocratic and engineering models require (Wittrock, 1991, p. 344).

As a response to these difficulties, Wittrock comes with the solution of further elaborating his models in order to make them more suitable in the context of analyzing the role of systematic knowledge in policy processes. The models brought together under *the extended matrix of social knowledge and policy* will be examined next.

2.4.2 The extended matrix of social knowledge and policy

Figure 3 The extended matrix of social knowledge and policy

Logics of the domains	Primacy for science	Primacy for policy
Strongly analogous and continuous	**Policy-learning model**	**Social-problem-solving model**
Weakly analogous and discontinuous	**Dispositional model**	**Adversary model**

Source: (Wittrock, 1991, p. 344)

The extended models of interaction between science and policy have in common one key characteristic related to their operating modes: they suggest that the basic operating modes of the worlds of research and policy processes are neither approximately equivalent nor fundamentally diverse, nor even incompatible. Instead, the premise of these models is that the operating modes, while not identical, are roughly analogous and compatible and thus, for example, allow for processes such as long-term learning to occur (Wittrock, 1991, p. 344).

The *policy-learning model* is based on the observation that policies are in a sense hypotheses, stating that certain types of actions are causally related and conducive to certain types of effects deemed desirable. Following this observation a policy is considered to be centered on a statement or set of statements that can be ascertained in terms of its justification and, ultimately, its truth. But, since policies are also surrounded by uncertainty, at any single point in time it might prove difficult or even impossible to know whether a given course of action is likely to have the desired effects. However, over time and with the benefit of hindsight, it should be possible to gradually accumulate some knowledge about such effects. Over time it should also be possible at least to narrow down the range of uncertainty and to limit policy debate to issues over which real ideological divergences exist and to avoid those fuelled by sheer ignorance (Wittrock, 1991, p. 345). In terms of the logics of the domains of science and policy, the policy-learning model assumes strongly analogous and continuous logics, coupled with a primacy given to research.

The *social-problem-solving model* adopts almost an inverse position when compared to the main stand taken by the policy-learning model with regard to the role of scientific knowledge as triggering policy change. In other words, the social-problem-solving model starts with noting that scientific knowledge is just one among many forms of knowledge, policymakers often place a higher value on other forms of knowledge and prefer the advice of others than professional social scientists. However, even if science proves to be one of many other forms of input for policy, that does not mean that any old belief, conviction or view is just as well founded as any other; on the contrary, it underlines the idea that one no longer deals with a case of ‘whether it is true or false, knowledge is knowledge to anyone who takes it as a basis for some commitment or

action'. If such a definition of knowledge were to be accepted, then a more or less total subjectivism would follow and it would make little sense even to discuss the role of knowledge in policy processes (Wittrock, 1991, pp. 346-347). In terms of the logics of the domains of science and policy, the social-problem-solving model assumes strongly analogous and continuous logics, coupled with a primacy given to policymaking and administration.

The *adversary model* takes again a different stand to the one taken by the policy-learning model, by considering politics and controversy as elements triggering the policy change. The adversary model highlights the fact that knowledge may well serve as ammunition in policy battles. Furthermore, controversy over an issue may well be conducive rather than detrimental – as assumed by the engineering model – to the use of social knowledge. However, the uses that occur in such adversarial situations cannot be easily preprogrammed, and bits and pieces of knowledge will be used by whoever can lay their hands on them and need them most to bolster their arguments (Wittrock, 1991, p. 348). In terms of the logics of the domains of science and policy, the adversary model assumes weakly analogous and discontinuous logics, coupled with a primacy given to policymaking and administration.

Finally, the *dispositional model* is built around an analysis of key actors in the process of knowledge utilization. There are at least three such key groups of actors. First, the actors involved in research and teaching, which may or may not be of a policy-oriented nature. Second, the group of various type of policy advisers. Third, the group of professional bureaucrats who are engaged in implementing policies from the 'bottom up'. The discourses conducted by these various groups will depend on both intellectual rules inherent in the discourses and in institutional and sociopolitical settings. These types of rules will have a great impact on the structuring and restructuring of discourses. Such a conceptualization seems to provide a good understanding both of processes of continuities and those of restructuring of linkages between social knowledge and public policies (Wittrock, 1991, pp. 350-351).

In terms of the logics of the domains of science and policy, the dispositional model assumes weakly analogous and discontinuous logics, coupled with a primacy given to research.

The models in the extended matrix of social knowledge and policy do seem to be better equipped to cope with the complexity of the interaction between science and policy in a given specific context. Their conceptual strength comes from the observations and subsequent changes operated by Wittrock at the level of the logics of the two domains. In practice, the logics of the domains are not to be found in a pure state of either convergence or divergence. Instead, they can feature elements of both, and thus show an in-between state, what Wittrock calls *"while not identical, roughly analogous and compatible logics"*(Wittrock, 1991, p. 344). The following section will take a look at how Wittrock's concepts (primacy of the domain and logics of the domains) are defined and how they can be used in the analysis of the interaction between expert groups and DG RTD in the follow-up of the ERA Green Paper.

2.4.3 Operationalization of Wittrock's concepts

An empirical use of either of Wittrock's matrixes of science and policy needs to be backed up by an identification of what the core concepts - primacy of the domain and logics of the domain – stand for, and what indications point to primacy of one domain over the other and to convergent/divergent/in-between logics of the domains. Wittrock does indeed describe at length the eight models of interaction between science and policy, how they are a vehicle for analysis, and how they represent the evolution of social knowledge in various changing societal contexts. In addition, Wittrock is aware of the lack of empirical strength of the four basic models, and attempts are made to turn them into more powerful tools for analysis. However, Wittrock does not go further into actually defining the core concepts, nor does he provide the indications to be taken into account when empirically analyzing, for instance, whether one domain has primacy over the other. This relative under-operationalization of the eight models decreases their power as tools for empirical analysis, and makes it difficult to put them at work.

2.4.3.1 First dimension of the interaction between science and policy: primacy of the domain

What does primacy mean? What are the indications one should look at when analyzing policy primacy or scientific primacy? Wittrock does not give a clear, explicit answer to these questions. When describing the models which are characterized by primacy of policy over science, Wittrock refers to subordination of science to policy ("(…) subordination of social research to the authoritatively expressed demands of the policy system (…), Wittrock, 1991, p. 337), adaptation of science to policy ("It accepts the primacy of policy and prescribes ways and means for research to successfully adapt to that", Wittrock, 1991, p.338), policy taking command over science ("(…) in the last instance policymakers have to take command and tell analysts and researchers what analyses are needed and what the relevant societal values are", Wittrock, 1991, p.339). In the case of models based on primacy of science over policy, Wittrock describes scientific primacy in terms of prominent position of science in relation to policy ("(…) that accords a prominent position to the role of these disciplines in supplying the conceptual and analytical tools for a public discourse", Wittrock, 1991, p. 338), and full contribution of science to policy ("(…) if research and analysis are accorded proper primacy and allowed to give their full contribution to a systematic and more structured approach to societal policymaking", Wittrock, 1991, p. 339).

The way Wittrock describes policy and scientific primacy recalls Jürgen Habermas's notion of relative primacy. For Habermas, relative primacy is defined as control and authority of one domain over the other. Habermas depicts relative primacy as a three-valued continuum. On one extreme of the continuum, the relation between science and policy is *technocratic* or in other words science dominates or displaces policy. In the technocratic relation, policy goals and the choice of means are dictated and determined by science. Moreover, policy is fully dependent on the ways scientific procedures, techniques and thinking impact on them. On the other extreme of the continuum, the relation between science and policy is *decisionist*, indicating that policy has the first and last say. In the decisionist relation, science provides instrumental knowledge and alternative means for goals set by policy. In turn, policy decides on the use or non-use

of science. The cliché image of politics on top and experts on tap fits the characteristics of this decisionist relation. The middle of the continuum is marked by the ***pragmatist or dialogical*** relation between science and policy. In this relation, science and policy function as countervailing powers in equilibrium, and their interaction is based on dialogue or debate. Not only does science provide instrumental knowledge, but it also critically reflects on the choice of goals set by policy. Vice versa, policy is not limited to setting values and goals, but it also attempts to influence contributions made by science. The image of speaking truth to power is inspired by this pragmatist or dialogical relation (Hoppe, 2002, pp. 22-23).

Habermas's three-valued continuum of primacy brings a relevant contribution for cases of empirical examination of scientific primacy and policy primacy. The indication that Habermas offers for looking whether one deals with a case of scientific and/or policy primacy is the *goals and the choice of means*. Nuanced meanings of primacy result according to whether the goals and means are fully set by policy (decisionist), by science (technocratic) or whether it is a joint contribution (pragmatist or dialogical).

Indications of scientific and policy primacy are also found in the work of Peter Scholten (2007), who uses Wittrock's models in a case study of research-policy relations and immigration integration in the Netherlands (1970-1994). Influence of research on policy developments is an indication of scientific primacy according to Scholten: "An important indication of primacy of scientific research in this period was the great influence that the 1989 WRR report had on the development of the Integration Policy" (Scholten, 2007, p. 188). Vice versa, influence of policy actors in research programming is an indication of policy primacy: "At the same time, there are also some indications of rising political primacy. Especially the politicization that was triggered by the National Minorities Debate indicates the growing involvement of political actors in this domain. This debate put immigrant integration firmly on the political agenda (…)" (Scholten, 2007, p. 189).

2.4.3.2 Second dimension of the interaction between science and policy: logics of the domains

As in the case of primacy, Wittrock only makes references to the logics of the domains as well. The references ultimately rest on a description of various forms the logics can take. Thus, in the main matrix of social knowledge and policy, the logics of science and policy can be either convergent or divergent. The enlightenment and bureaucratic models feature divergent logics of the domains. The divergence is described by Wittrock in terms of "a chasm between the worlds of research and policy in terms of missions and mandate (…)" (Wittrock, 1991, p.344). The models that share in common convergent logics of the domains are the technocratic model and the engineering model. The convergence is referred to by Wittrock in the sense of: "stimuli from one of these domains can fairly directly influence the behavior of the other realm" (Wittrock, 1991, p.344). The third form the logics of the domains can take is to be found in the extended matrix of social knowledge and policy. Here the logics are in-between convergence and divergence: "while not identical, are roughly analogous and compatible (…)"(Wittrock, 1991, p. 344). However, two issues come up, especially in the context of empirically analyzing the logics of science and policy. First, what do the logics of the domains stand for?, and second what indications one should look at to indentify whether the logics are convergent, divergent or in an in-between state? Again, Wittrock does not give a clear, explicit definition of the logics of the domains, nor does he indicate what elements constitute convergence, divergence or an in-between state.

The work of other authors on the relation between science and policy is useful in contributing with more clarifications on the two issues mentioned above. From a historic perspective, science and policy have been considered as different and separated social domains and institutions (Hoppe, 2002, p. 23). Each of these domains has its own distinct structure, involving actors with specific positions that follow specific institutional rules of the game (Bourdieu and Wacquant, 1992, cited in Scholten, 2007, p. 32). For Radin (2000) science and policy are two different cultures in terms of values, time, uncertainty, evidence and meanings. "There are instances in which the two sets of actors sit across from one another without even engaging in what could be

viewed as an exchange" (Radin, 2000, p. 90). Building on the work of Dror (1984), Radin shows the interfaces between policy and science. On the one hand, the domain of science is concerned with explaining uncertainty and complexity, searching for more options, setting decision criteria and value choice, emphasizing interrelations between various problems and decisions, constantly considering constraints and costs, keeping distance to the object of analysis, adopting a long-term perspective, and being open to the re-evaluation of problems. On the other hand, the domain of policy is characterized by a high level of personal involvement, quick focus, situation-simplifying and ignoring, adopting a short-term perspective and a piecemeal approach (in order to narrow the scope of conflict), avoiding clear-cut choices in order to maintain essential consensus, emphasizing advantages of their solutions, rejecting dissonance and having a tendency to see success everywhere (Radin, 2000, p. 91). The work of authors shown above insists on the distance and separation between science and policy, which ultimately reveals and supports the divergence between what these two domains stand for and how they function. "Insisting on divergent operational codes confirms and reproduces this functional differentiation. Science and politics are considered two incompatible ways of life, whose relational logic is either/or" (Hoppe, 2002, p. 23). However, as stressed by Hoppe (2002, p. 24) there are other authors who advocate the convergence between the logics of science and policy, two domains functioning in a "seamless web-like harmonious interaction towards the joint construction of a negotiated and eventually shared truth" (Van Eeten and Ten Heuvelhof, 1998, cited in Hoppe, 2002, p. 24). Based on this approach, no matter how much diversity is between the logics or operational modes of their domains, science and policy are assumed to eventually share the same societal functions: "the creation of consensus and the fight against chaos as preconditions for social cooperation and collective action. Policy generates consensus in society through social and rhetorical means. Science achieves the same through the tacit consensus and action coordination brought about through technology's black boxing and the 'grey boxes' of social innovations, socio-technical networks, legal rules, and the models and intervention techniques developed in economics and the social sciences" (Schmutzer, 1994; Ezrahi, 1990, cited in Hoppe, 2002, p. 23). Wittrock himself arrives at the conclusion that "(…) any conceptualization

of the interaction between science and policy ultimately rests on an assumption about the analogy between the operational modes of the realms of science and of policy" (Wittrock, 1991, p.336). As for the indications of convergence or divergence, some are revealed in the work of Scholten (2007). Scholten analyzed convergence or divergence "in the extent to which science and policy interacted either directly (close mutual relations) or more indirectly (at a distance). When the interaction of actors in both domains combined in a way that established a close personal or institutional relationship between specific actors, this was as an indication of convergence, whereas more distance relations were seen as an indication of divergence" (Scholten, 2007, p. 63).

Both Wittrock's core concepts of primacy of the domain and logics of the domains will be operationalized in Chapter 4, which forms the core of the case study on the role of expert groups in shaping the ERA policy in the follow-up of the Green Paper. Concretely, primacy of expert groups and primacy of DG RTD will be examined in several stages marked by the Terms of Reference (ToR); the reports of the expert groups and the follow-up to the reports by DG RTD. Indications of expert groups' primacy or DG RTD primacy will be based on the following: goals (who set the objectives, mandate and tasks?); DG RTD decision of use or non-use of the reports of expert groups; influence (short-term and long-term) of the reports on shaping the ERA policy dimensions and overall vision. The second concept, logics of the domains, will be examined in the extent to which expert groups and DG RTD interacted in a direct, close manner, or in an indirect manner, rather being at a distance from one another. Obviously, there is a case of convergent logics of expert groups and DG RTD when a close and direct interaction is present. Contrary, when the interaction is distant, indirect, then there is a case of divergence of their logics. Whereas primacy can have nuanced meanings (decisionist, technocratic, pragmatist or dialogical) at different stages of the interaction between science and policy, the logics enjoy more stability given by the fact that the parameters of the domains themselves, such as values, time, uncertainty, evidence, meanings etc do not change from one stage to another.

The European Research Area – emergence and development

This chapter examines the emergence and development of the European Research Area (ERA): how the ERA came to be, how it evolved from an idea to the status of a practical policy, built on many different dimensions, and what the new context for the ERA looks like. The first milestone explored is the emergence of the ERA in 2000; more precisely the analysis will be targeted at the policy document that officially sets the ground for the creation of the ERA – the 2000 Commission Communication 'Towards a European Research Area'. The context of the formulation of the 2000 Commission Communication, the actors involved in the process of drafting, shaping and finally adopting the policy document represent some of the issues that will be addressed. Further on, the development of the ERA in the period 2000-2006 will be examined, in terms of how the concept of the ERA has been advanced and what practical instruments have been designed to support and operationalize the ERA concept. Last, the focus will be on the relaunching of the ERA in 2007, most recent development in the process of deepening and widening ERA beyond 2007. The relaunching of the ERA will be analyzed in terms of several issues: the policy document which set the ground for relaunching of the ERA - 2007 Green Paper 'The European Research Area: New Perspectives'; the context and factors that contributed to the formulation of the 2007 Green Paper, the actors involved in the initiation, shaping and adoption of the Green Paper.

3.1 Emergence of the European Research Area (ERA)

3.1.1 Commission Communication 'Towards a European Research Area'

The creation of the ERA has been a central element of several visions for research policy at European level. The 2000 ERA idea is a rediscovery of a concept dating back to the 1970s. As perceived since the 1970s, the ERA was a vision about coordinating national research activities and policies and creating an internal market for research with the free circulation of researchers, ideas and technologies (SEC (2007) 412/2).

It was a Council Resolution of 14 January 1974 that spelled out some of the first ideas on which research policy at European level was later founded. According to the Council Resolution two key pillars were to support the development of a common research policy: the coordination of national policies, and the joint implementation of projects of interest to the Community[18]. The Lisbon European Council (March 2000) officially recognized the creation of the ERA as one of EU major objectives and a key reference for research policy in Europe. The 2000 ERA Communication stood for the Commission's initiative to define a real European research policy, by going beyond the structure of "15+1" (in which national research policies and Union policy overlapped without forming a coherent whole) towards a more dynamic configuration. By dynamic configuration, it was implied that measures needed to be taken at different levels: by the Member States at national level, by the European Union with the Framework Programme and other possible instruments, and by intergovernmental cooperation organizations (COM (2000)6final, p.7). The 2000 Communication is different from earlier attempts in several significant respects. First, it identifies the major science and technology weaknesses in Europe: insufficient funding (EU seriously lagging behind US as far as overall research and development expenditure; EU lagging behind both US and Japan in terms of research and development intensity); lack of an environment which stimulates research and exploitation of results; fragmentation of research

[18]Interim policy options paper of the Expert Group for the follow-up of the revised Lisbon Strategy: Governance issues and links with the Lisbon strategy (presented at the High-level Conference on 'The Future of Science and Technology in Europe' , Lisbon, 8-10 October 2007), p. 22

activities and dispersal of resources. Second, the Communication is not only focused on identifying problems, but it also suggests a number of measures (COM (2000)6 final) meant to ensure a better organization of research activities and policies in Europe:

- Optimization of material resources and research facilities at European level;
- More coherent use of public instruments and resources;
- More dynamic private investment;
- A common system of scientific and technical reference for policy implementation;
- More abundant and more mobile human resources;
- A dynamic European landscape, open and attractive to researchers and investment;
- An area of shared values

The 2000 ERA Communication was the first Commission policy document that set out concrete steps for the creation of the ERA. The aim of adopting the 2000 ERA Communication was to look at what needed to be done to move towards a European Research Area. The idea behind the seven areas of measures proposed by the Commission was to achieve a better organization of research in Europe in terms of: human resources, research facilities and instruments; more coherent use of private and public funding; greater opening of Europe to researchers from the rest of the world.

Commission policymakers (DG Research - DG RTD) were the main drivers for the formulation of the 2000 ERA proposal. As the institutional author of the ERA project, the Commission can be seen as 'an actor with interests to pursue' (Caswill, 2003, p.76, in Edler et. al. (eds.). In terms of a principal-agent analysis, the 2000 ERA proposal and FP6 are the financial, policy and rhetorical resources used by the Commission to pursue its interests by recruiting other actors to its purposes. The driving force for the Commission to support and push the ERA project was primarily based on the need to enhance its autonomy from its formal principals, the EU Member States and the various European Councils. The 2000 ERA proposal increased the legitimacy of the Commission, enabling it to have a stronger influence on national science systems by linking up with centres of research excellence and by creating new dependencies on EU

funds (Caswill, 2003, p.76 in Edler et. al. (eds.). The original draft of the proposal was the work of a single hand within or close to Commissioner Philippe Busquin in charge with research policy at the time. The draft proposal was not the product of more conventional consultation processes with the operational Directorates (Caswill, 2003, p.67, in Edler et. al. (eds.). Within a very short time frame, the ERA proposal progressed from an individual internal paper to a fully endorsed policy document. The Commission published its proposal in January 2000 and in March 2000, at the Lisbon European Council it was adopted by the EU Heads of State.

Several factors were identified to have contributed to the success of the 2000 ERA proposal. The overall context at the time played a major role in identifying the ERA as a shared objective and moving towards actions to promote and implement it. The proposal for the creation of the ERA arrived at a time when key EU Member States (Germany, Great Britain and France) were in the process of reforming their national research policies. The actions, implementing measures and instruments identified in the ERA proposal were in line with the concerns of most, if not all Member States. They were also in line with the concerns about the Commission administration, by suggesting ways to reduce the bureaucratic effort (and control), to delegate the research award management to national research teams, to build on national scientific and managerial capacity. Furthermore, there was an important break with past rhetoric and ideology, which tended to emphasize the unique position of the Commission as the main and only effective European actor in the field of research policy. The 2000 ERA proposal included a new emphasis on a partnership between the Commission and the Member States, fully recognizing that European research policy is a long term and multi-layered process (Caswill, 2003, p.66, in Edler et. al. (eds.).

3.1.2 The consultation and debate on the ERA Communication: main actors involved

The importance of organizing a broad and in-depth debate was highlighted in the Communication itself: *"Before any actual decisions are taken a broad-based debate has to take place. The analyses set out in this communication and the proposals put forward have to be discussed in depth. This debate should unfold first and foremost in the European institutions: in the Council and in the European Parliament in extension of discussions on the future of research in Europe that have been held in recent years and also in the Economic and Social Committee and the Committee of the Regions. It is also essential to hear the views of the scientific community, the world of industry and, more broadly, "civil society". (*COM (2000)6 final, p. 23). The objective was to ensure that all relevant actors had the opportunity to contribute with ideas and suggestions with regard to seven areas of measures set out in the Communication.

The consultation process was organized in the period January-May 2000 and it was open to a wide range of actors: EU institutions and advisory bodies, representatives of Member States, Candidate Countries as well as other associated states to the RTD Framework Programme, representatives of the scientific communities, world of industry and the public at large. Following the consultation process, the input received from various actors was subject to analyses and commentaries, carried out by Commission policymakers. The analyses were not carried out per source of expertise; they were conducted for the overall contributions. There were about 190 contributions received via the web and about 150 letters addressed to the Commissioner Busquin. The contributions are considered to be *positive and at times challenging*[19] and they cover aspects related to seven areas of measures set out in the Communication. The overall contributions received during the consultation process showed a high level of support for the general objectives set out for the transition to the ERA. Furthermore, the

[19] Statement from Commissioner Busquin on the contributions to ERA debate, archived at http://ec.europa.eu/research/area/comments3.html

consultation process triggered suggestions on a number of important issues that should be taken into account in the development of the ERA[20].

Next, the main actors involved in the debate will be presented together with a short review of their input on the Communication.

Consultations with the Council and the Parliament

Shortly after its formal adoption at the Lisbon European Council (March 2000), the 2000 ERA Communication was subject to in-depth debate within the Council. On the occasion of various meetings[21] of the Competitiveness Council input was received on the Commission objectives and action lines set out in the 2000 ERA Communication. Following the analysis of the Council Resolutions adopted during the meetings mentioned above, it can be noted that the position emerging from the Council members is that of support in favor of the ERA vision and of the objectives outlined to make ERA a reality.

The Parliament issued two relevant documents[22] in which it presents its views on the 2000 ERA Communication. Both documents point out the favorable opinion and the support of the Parliament for the 2000 ERA Communication.

Consultations with the Economic and Social Committee and the Committee of the Regions

Both EU advisory bodies provided their input on the 2000 ERA Communication. The Committee of the Regions issued its opinion on the Communication on April 12th 2000[23], strongly supporting the Commission initiative towards the ERA.

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[20] Towards a European Research Area' Contributions to the debate and commentary from the Commission organized according to the action lines indicated in the Communication, http://ec.europa.eu/research/area/area-comments3.pdf

[21] Competitiveness Council meeting, 15.06.2000, Luxembourg, http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/09411.en0.html#_Toc486040273; Competitiveness Council meeting, 16.11.2000, Brussels, http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/13084.en0.html

[22] Report of the EP on the 2000 ERA Communication, 09.05.2000; the EP Resolution on the 2000 ERA Communication, 18.05.2000, http://cordis.europa.eu/era/ep.htm

The Economic and Social Committee issued its opinion on the Communication on May 24th 2000[24]. The opinion supports the ERA vision and objectives as set out in the 2000 Communication.

Consultations with Member States' national administrations as well as with candidate countries

Input on the 2000 ERA Communication was also received from the national administrations of Member States as well as Candidate Countries. The government positions papers[25] formulated in this respect contain various commentaries, suggestions and recommendations on the ERA rationales and the objectives proposed for its implementation. The overall approach of the national governments shows support for the ERA initiative.

Consultations with scientific community, industry, and society

The debate and consultation did not unfold only in the EU institutions and its advisory bodies, national administrations and candidate countries at the time. Representatives of the scientific community, industry and society participated in the debate as well. Furthermore, four expert groups were set up by DG RTD to deal with the seven areas of measures set out in the Communication. The expert group "Material resources and their coordination" focused on the first two measures presented in the Communication: 'Optimization of material resources and research facilities at European level' and 'More coherent use of public instruments and resources'[26]. The expert group "Favourable conditions for research and technological development" gave input on the measure

[23] Opinion of the Committee of the Regions on the 2000 ERA Communication, 12.04.2000, http://coropinions.cor.europa.eu/COROpinionDocument.aspx?identifier=cdr\commission5\dossiers\com5-026\cdr33-2000_fin_ac.doc&language=EN
[24] Opinion of the Economic and Social Committee on the 2000 ERA Communication, 24.05.2000, http://cordis.europa.eu/era/ecosoc.htm
[25] Contributions of Member States and Candidate Countries to the debate on the 2000 ERA Communication, http://cordis.europa.eu/era/memberstates.htm
[26] Report of expert group "Material resources and their coordination", presented at the seminar on the 2000 ERA Communication (03.05.2000), archived at http://ec.europa.eu/research/area/resources.pdf

'More dynamic private investment' presented in the Communication[27]. The expert group "Valorizing human resources" covered two measures set out in the Communication: 'More abundant and more mobile human resources' and 'A dynamic European landscape, open and attractive to researchers and investment'[28]. The expert group "Science, ethics and society" provided input on the remaining two areas of measures presented in the Communication: 'An area of shared values' and 'A common system of scientific and technical reference for policy implementation'[29].

The four expert groups presented their input during the seminar organized by the Commission on the 3rd of May 2000, in Brussels. The main objective of the seminar was to gather the views on the measures set out in the Communication, from the policy perspective of external experts representing the academic and industrial communities.

The seminar was organized on four parallel sessions covering the seven areas of measures presented in the Communication. Each parallel session dealt with: the main challenges; the identification of priorities and their earmarking as short or long term; proposals on the way forward, indicating possibly implementation stages and levels (Member State, Region, EU) - this particular part was meant to help Commission policymakers in identifying possible initiatives, and playing a catalyst role at European level[30]. The seminar was an important tool in bringing external experts and Commission policymakers together, fostering an exchange of information and opinions between the two categories of actors on the measures set out in the Communication.

[27] Report of expert group "Favourable conditions for research and technological development", presented at the seminar on the 2000 ERA Communication (03.05.2000), archived at http://ec.europa.eu/research/area/conditions.pdf

[28] Report of expert group "Valorizing human resources", presented at the seminar on the 2000 ERA Communication (03.05.2000), archived at http://ec.europa.eu/research/area/valorising.pdf

[29] Report of expert group "Science, ethics and society", presented at the seminar on the 2000 ERA Communication (03.05.2000), archived at http://ec.europa.eu/research/area/ethics.pdf

[30] Seminar on the 2000 ERA Communication organized by the Commission on the 3rd of May 2000, in Brussels, archived at http://ec.europa.eu/research/area/seminar.html

3.2 Development of the ERA in the period 2000-2006

3.2.1 Advancing the ERA concept
ERA policy documents

In the period 2000-2006, further steps were proposed in order to stimulate the development and strengthening of the ERA. These steps were set out in several Commission policy documents.

The ERA concept gained a fully fledged status with the adoption of the *2002 Communication 'European Research Area: Providing New Momentum'*. For the first time, in the 2002 Communication, three strategic and interlinked objectives were defined:

- creation of an 'internal market' for research – an area of free movement of knowledge, researchers and technology, which would contribute to an increasing co-operation, and would stimulate competition and a better allocation of resources;
- restructuring of the European research fabric; in particular by improved co-ordination of national research activities and policies;
- development of a European research policy which would not only address the funding of the research activities, but also all relevant aspects of other EU and national policies (COM(2002)565).

As regards the implementation of these three strategic objectives, the 2002 Communication underlines the need to use the measures set up in the 2000 ERA Communication.

In addition to the 2000 and 2002 Communications, dealing closely with the concept of the ERA and its core objectives, a number of other ERA-related policy documents were adopted, focusing on different dimensions of the ERA. The international dimension of the ERA is dealt with in a 2001 Communication, which emphasized the fact that a

European Research Area is not to be perceived as a closed system, but instead as an open one based on partnership and dialogue with researchers from all over the world, in coordination with and among Member States (COM (2001)346).
The regional dimension of the ERA, as emphasized in the 2001 Communication "*The Regional Dimension of the European Research Area*", refers to the need to integrate Europe's regions more explicitly in the research policy in view of creating the knowledge-economy. Enhancing the capacities of regions to contribute to Europe's efforts for growth and competitiveness will have a major role in strengthening the ERA.

Other ERA-related aspects were dealt with in subsequent Communications: mobility of researchers (COM (2001)331), the importance of basic research for Europe (COM (2004)9), the need for increased investment in research (COM (2002)499). The *2005 Communication, 'Building the ERA of Knowledge for Growth',* was an important milestone in the development of the ERA, underlining the need to reach a higher level of coherence between research policies and other EU policies in order to achieve the renewed Lisbon strategy. The 2005 Communication recognized the ERA as a valuable instrument in the process of reaching the following main targets: delivering on the Lisbon objectives[31]; putting the 'knowledge triangle' of research, education and innovation at work; mobilizing EU financial instruments at the service of knowledge for growth.

[31] The Lisbon objectives, as set out in the Lisbon Strategy, adopted by the Lisbon European Council in March 2000 are focused on making Europe the most dynamic and competitive, knowledge-based economy in the world, capable of sustaining economic growth, employment and social cohesion. At the March 2005 European Council, European heads of state and government re-confirmed Lisbon objectives and declared their aim of increasing the potential for economic growth and strengthening European competitiveness by investing above all in knowledge, innovation and human capital, COM(2005)118 of 06/04/2005 'Building the ERA of Knowledge for Growth'

3.2.2 Operationalization of the ERA concept
ERA instruments

In addition to policy documents, the ERA is also supported by various types of instruments. Many of them involve a funding dimension: Framework Programmes, the EUREKA Initiative, ERA-NET, European Technology Platforms, etc. Furthermore, the Open Method of Coordination, policy instrument formalized by the Lisbon European Council in March 2000, involves a more strategic dimension, focusing on increasing the coherence of national policies in the field of ERA and achieving a greater alignment with EU objectives.

Next, all these instruments will be described in terms of their objectives and contribution to making the ERA a reality.

Framework Programmes (FPs)

Since their launch in 1984, FPs have played a major role in multidisciplinary research and cooperative activities in Europe and beyond (FP7 Brochure, 2007, p.4).

The first FP concentrated on industrial technologies, information technology, telecommunications, and biotechnology. Each subsequent FP has been broader than its predecessor in its scope of technologies and research themes, with correspondingly higher expectations of its impact on the economy and society (Kuhlmann, 2001, p.964).

FPs are a key pillar for the ERA, supporting its development on several dimensions. The main objective of FPs is to improve integration and coordination of research in Europe, which is still characterized to a large extent by fragmentation. At the same time, FPs are targeted at reaching the goals of growth, competitiveness and employment as well as at supporting the formulation and implementation of other EU policies.

To fulfill their main role as well as their objectives, FPs make use of various instruments, particularly aimed at: generating new knowledge through research and development (Specific Targeted Research Projects and Integrated Projects), promoting the durable integration of the participants' research activities/capacities (Networks of

Excellence), and supporting collaboration and coordination of other activities (such as conferences and studies) (Classification of FPs Instruments – policy document, 2006, pp.11-17).

Currently, FP7 is up and running for the programming period 2007-2013. FP7 continues the tasks of previous framework programmes, contributing in a larger (increased budget) and more comprehensive way to the further development of the ERA. The main priorities of FP7 are focused on: fostering collaborative research across Europe and other partner countries, according to several key thematic areas; coordination of non-community research programmes, thus bringing European national and regional research programmes closer together; funding pure, investigative research at the frontiers of science and technology, independently of thematic priorities; providing support for research mobility and career development, both for researchers inside the EU and externally; strengthening and optimizing the European knowledge capacities (FP7 Brochure, 2007, p.10).

EUREKA Initiative

Created as an intergovernmental Initiative in 1985, EUREKA is a pan-European network for market-oriented, industrial R&D. The main objective of this Initiative is to enhance European competitiveness, by means of providing support to businesses, research centres and universities that carry out pan-European projects in the pursuit of developing innovative products, processes and services. The specific advantages of this Initiative are: a flexible and decentralized network of R&D partners; rapid access to a wealth of knowledge, skills and expertise across Europe; easy access to national public and private funding schemes.

The contributions of the EUREKA to the further development of the ERA stem from the following: by supporting businesses to innovate, the EUREKA Initiative complements the Framework Programmes in working actively towards the common European objective of raising investment in R&D to 3% of GDP by 2010; EUREKA is a model for intergovernmental cooperation in R&D and innovation, opening up opportunities for cooperation beyond the boundaries of the EU; EUREKA is an

efficient platform for creating strong links between national (or even regional) research efforts of its members, contributing to the opening of national research programmes for European cooperation (EUREKA Position Paper on the ERA Green Paper, 2007, pp.2-3).

ERA-NET

The goal of the ERA-NET scheme is to increase the cooperation and coordination of research activities carried out at national or regional level in the Member States as well as Associated States by means of networking of research activities conducted at national or regional level, and mutual opening of national and regional research programmes. Since both networking and mutual opening require a progressive approach, the ERA-NET scheme has a long-term perspective that also takes into account the various ways research is organized in different Member States and Associated States (ERA-NET leaflet, 2003, p.5). As shown by a recent review report (ERA-NET Review, 2006, p.20)[32], ERA-NET has substantially contributed to making the ERA a reality along the following dimensions: facilitation of mutual learning among national and regional programme owners and managers concerning the design and implementation of research programmes; improved coordination of policy responses to shared challenges; establishment of critical research masses in key areas; reducing unintended duplication and redundancy via the exploitation of complementary strengths in national and regional programmes.

European Technology Platforms (ETPs)

The main goal of ETPs is to provide an organizational framework for stakeholders, led by industry, to define research and development priorities, timeframes and action plans on a number of key issues: timely development and deployment of new technologies; technology development with a view to sustainable development; new technology-based public goods and services; technological breakthroughs necessary to remain at the leading edge in high technology sectors and the restructuring of traditional

[32]The review was conducted by an independent expert group

industrial sectors (European Technology Platforms, Highlights, 2007, p.12). The potential contribution of ETPs to the implementation of the ERA objectives is far reaching. Some of the key benefits of ETPs for the ERA are: playing an important role in shaping standards and creating networks and associations at European, national and regional level; providing significant input in identifying and overcoming unnecessary regulatory and administrative barriers to commercializing the results of research in Europe; contributing to the definition of future education and training needs to help ensure the effective implementation of the technologies developed (Third Status Report on European Technology Platforms, 2007, pp. 22-25).

Open Method of Coordination (OMC)

The main objective of OMC is to achieve a stronger coordination of national policies in the ERA. OMC is a soft governance tool agreed between Member States in order to ensure satisfactory progress in policy areas which are primarily of Member State competence (CREST Report on OMC, 2004, pp.7-8). This tool is supposed to be more open to national diversity and European integration following a "variable geometry" approach. In contrast with the policies aimed at building the single market, when it comes to the ERA, the emphasis is on mutual learning and discovering jointly appropriate solutions in those policy areas where a clear integrative role of the Union is not explicit or yet accepted (Caracostas, 2003, p.51, in Edler et. al. (eds.).

According to the Council Resolution of 22 September 2003 ("Investment in Research in Europe"), CREST[33] was given the mandate to supervise the application of the OMC in support of 3% GDP target for R&D investment. Since 2003, three review cycles of OMC impact have been launched by CREST. The overall CREST reports, issued following each review cycle, are based on stocktaking of the progress achieved using OMC as well as policy recommendations and orientations on how to further increase the OMC impact on achieving the ERA objectives.

[33] CREST is an advisory body whose function is to assist the Council and the Commission in performing the tasks incumbent on them in the sphere of RTD

As the review reports show, the use and application of OMC have lead to positive overall results and concrete benefits to many Member States as they strive to increase investment in research. Some of these benefits are: establishment of networks of national policymakers, who work together on a multilateral basis; collection and exchange of information on national policies (providing a useful evidence base for future policymaking); identification of good practices, which adds value to the evidence base; identification of key issues and, in some instances, specific recommendations for future action (CREST Report on OMC, 2004, pp. 13-20).

3.2.3 The ERA – progress achieved so far and actions to be taken beyond 2007

Reflecting on the milestones in the development of the ERA in the period 2000-2006, it can be noticed that, since its launch in 2000, the ERA has gone through several gradual changes, which played a significant role in turning it into a practical policy, built on many different dimensions. Furthermore, even though the policy context evolved in the period 2000-2006, the initial central ERA objective - better organization of research activities and policies in Europe – and its supporting implementing measures as defined in the 2000 ERA Communication still remain valid.

The ERA is not only supported by initiation and adoption of policy documents, which set out measures and action lines designed to advance and strengthen it. There are also various instruments tailored to respond to the needs of making the ERA a reality and facilitate the implementation of its objectives. The actual progress achieved so far is built on many actions and notable initiatives targeted at areas such as: coordination of research activities and programmes (ETPs and ERA-NET play a major role); coordination of national research policies and better alignment with objectives set out at European level in the field of research (OMC has a great impact on achieving progress in this area); development of research and innovation capacities (supported by financial

instruments – FPs are the main financial instruments; in addition, Structural Funds also contribute to achieve progress in this area) etc.

Nonetheless, according to current reviews (SEC (2007) 412/2) a lot of action is still needed in order to strengthen the ERA and especially to overcome the *fragmentation* which remains a prevailing characteristic of the European public research base. Some of the measures[34] envisaged to overcome the issue of fragmentation are: increase the mobility of researchers across institutions, sectors and countries by finding solutions to remove the legal and practical barriers; facilitate the cooperation of businesses across Europe; stop the dispersion of resources and excessive duplication by better coordinating the national and regional research funding; increase the coherence of national reforms in the field of research, which in most cases lack a true European perspective.

3.3 New perspectives for the ERA beyond 2007

3.3.1 Commission Green Paper 'The European Research Area: New Perspectives'

The adoption of the Green Paper represents a key milestone in the development of the ERA beyond 2007. According to Mr. Janez Potocnik, the EU Science and Research Commissioner, *the main idea behind the Green Paper is not to reinvent the concept of ERA, but to create the right environment for ERA to flourish. It is about introducing a 'Fifth Freedom' within the EU - that of the 'movement of knowledge', which should ensure a greater coordination across the continent and improve competitiveness*[35].
Ideas on how to better organize and coordinate research at European level and how to create a more unified and attractive ERA beyond 2007 have started to surface at different levels within the EU since the end of 2006 (Competitiveness Council

[34] ERA – progress made and still to make, http://ec.europa.eu/research/era/era-history_en.html

[35] Based on CORDIS News attendance at Science/Business 'The 5th Freedom: Research in Europe' event, http://cordis.europa.eu/fetch?CALLER=NEWS_ERA&ACTION=D&RCN=27848&DOC=1&CAT=NEWS&QUERY=4

meetings[36]; European Council meetings[37] etc). It was after the launch of the FP7 (January 2007[38]) that the Commission turned its full attention to reviewing the progress achieved so far on the ERA and proposing new steps for improvement, where necessary. A more strengthened ERA would respond to the needs of various actors in the research field (scientific community, business sector etc) as well to the needs of public at large.

Various factors led to the formulation of the ERA Green Paper. First, the need to assess the progress made and discuss future orientations of the ERA in the context of the upcoming review of the first three-year cycle of the renewed Lisbon Strategy for Growth and Jobs, and the launch of the second cycle in 2008. In addition, a series of major changes were identified in the global context for the ERA: globalization of research and technology is accelerating and new scientific and technological powers - China, India and other emerging economies - are attracting considerable and increasing amounts of R&D investments. These developments bring new opportunities for Europe and the world. At the same time, they raise the question of Europe's ability to sustain a competitive edge in knowledge and innovation, which is at the core of the renewed Lisbon Strategy for Growth and Jobs (COM (2007) 161 final, p. 5).

Against this background, the Commission took the decision to adopt the Green Paper 'The European Research Area: New Perspectives'[39]. The Green Paper identifies six main areas in which ERA needs further progress:

- Realizing a single labour market for researchers;

[36] Competitiveness Council meeting, Brussels, 25 September 2006, http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/91068.pdf; Competitiveness Council meeting, Brussels, 4 December 2006, http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/92107.pdf

[37] Brussels European Council, 15/16 June 2006, http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ec/90111.pdf; Brussels European Council, 14/15 December 2006, http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ec/92202.pdf

[38] On 15/16 January 2007, the German Federal Ministry of Education and Research (BMBF) hosted a national kick-off event in the Internationales Kongresszentrum Bundeshaus Bonn (IKBB) to launch the 7th EU Research Framework Programme, http://www.bmbf.de/en/6351.php

[39] The Green Paper was adopted by the EC on the 4th of April 2007 and it is accompanied by a background document, also produced by the EC. This document provides a detailed assessment of progress and an analysis of the current situation and challenges regarding ERA, http://ec.europa.eu/research/era/consultation-era_en.html

- Developing world-class research infrastructures;
- Strengthening research institutions;
- Sharing knowledge;
- Optimizing research programmes and priorities;
- Opening ERA to the world.

According to the Commission these six broad orientations *have the potential to considerably strengthen the ERA, rendering it fit and capable to address the major challenges that Europe faces in a an open world and to achieve the objectives of the Lisbon strategy* (COM (2007)161 final, p.28).

3.3.2 The consultation and debate on the Green Paper: main actors involved

A consultation process was launched shortly after the adoption of the Green Paper by the Commission[40]. The aim was to gather input on the way to go forward with the development of the ERA. A wide range of actors representatives of various domains participated in the consultation and debate: politico-administrative domain (key EU players: Council, Parliament; national and regional public authorities); science domain (research institutions, including universities; researchers); industry domain (industrial research associations); society domain (civil society organizations). However, some of the mechanisms used throughout the consultation process belong to the normal steps of the EU policymaking process, whenever a policy proposal is initiated by the Commission (i.e.: consultations with the Council, the Parliament, the EU advisory bodies etc) and their importance lies in increasing the legitimacy of the Commission's policy proposals as well as in building political support necessary to reach a positive final decision. In order to facilitate the consultation process, the Commission services

[40] The Green Paper was adopted on the 4th of April 2007. Shortly after, on the 1st of May 2007, the consultation process began and it will remain open until the 31st of August 2007. http://ec.europa.eu/research/era/consultation-era_en.html

prepared a working document (SEC (2007) 412/2), which provides additional information and further clarifications on the issues presented in the Green Paper. Following the consultation process, the input received from various actors was subject to analyses and commentaries, carried out by the Commission. According to the Commission's report on the final results of the public consultation, close to 1,000 responses were received both before and after the deadline of 31st August 2007 (31st December 2007 was the final deadline for input to the consultation) (SEC (2008) 430, p. 11). One of the main messages from the consultation showed that in order to fully realize the ERA *the Member States, stakeholders and the Commission need to work together in partnership, with each accepting their responsibility for making it happen*[41]. The contributions from the consultation also draw attention to the *crucial interactions between research, education and innovation. Industry, in particular, considers that, in focusing on challenges to public research systems, the Green Paper did not pay enough attention to the central role of research-innovation linkages and of private R&D within the ERA* (SEC (2008) 430, p. 6).

Most respondents showed the need to carefully consider what is best done at European and national levels. The strongest support for action at the European level is for researchers, international cooperation and infrastructures dimensions as spelled out in the Green Paper. On the other hand, action is considered most appropriate at the national level when it comes to strengthening research institutions. Overall there was generally little demand for binding legislative actions at European level. The majority of responses indicated that flexible and adaptable instruments such as bottom-up cooperation schemes, networking, voluntary legal frameworks, the exchange of best practices and the establishment of guidelines are preferred (SEC (2008) 430, pp. 6-7).

The results of the consultation process are being used by the Commission to prepare policy proposals and formulate concrete actions meant to tackle the problems that still prevent the ERA to achieve its full potential. The proposals and actions were included in Slovenia's programme as it took the helm of the EU at the beginning of 2008

[41] Press release on the final results of the Public Consultation on the Green Paper, Brussels, 24 April 2008,http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/637&format=HTML&aged=0&language=EN&guiLanguage=en

(CORDIS news on ERA, 14/06/2007). Next, an overview will be given of how the consultation process evolved along its several strands.

Consultations with the Council and the Parliament

Exchange of views as well as focused discussions on the ERA Green Paper took place during several Competitiveness Council meetings[42]. Furthermore, broad orientations in the context of the ERA relaunching have also been discussed in the Informal European Council[43], held on 18 and 19 October 2007 in Lisbon, Portugal.
The European Parliament presented its views and conclusions on the ERA Green Paper at the end of 2007[44].

Consultations with the Economic and Social Committee

The European Economic and Social Committee established an ERA Green Paper study group within its INT section (Single Market, Production and Consumption). The INT Section adopted the draft opinion on 4 October 2007[45]. At its 439th plenary session, held on 24 and 25 October 2007 (meeting of 24 October), the Economic and Social Committee adopted the opinion paper on the ERA Green Paper. According to the Committee's opinion paper, the ERA Green Paper is a notable initiative of the Commission in the right direction of

[42] Informal Competitiveness Council, 26/27 April 2007, Würzburg, Germany, http://www.bmbf.de/en/7314.php; Competitiveness Council, 21/22 May 2007, Brussels, http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressdata/en/intm/94184.pdf; Informal Competitiveness Council, 19/20 July, 2007, Lisbon, Portugal, http://www.ue2007.pt/UE/vEN/Reunioes_Eventos/Informais/Informal_CSS.htm; Competitiveness Council, 27/28 September 2007, Brussels, http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/intm/96061.pdf; Competitiveness Council, 27/28 November 2007, Brussels, http://ec.europa.eu/research/era/progress-on-debate/institutional-debate_en.html
[43] Informal European Council, 18/19 October 2007, Lisbon, Portugal, http://ec.europa.eu/research/era/progress-on-debate/institutional-debate_en.html
[44] Report of the European Parliament on Commission Green Paper 'The European Research Area: New Perspectives' SEC (2007) 412 of the Committee on Industry, Research and Energy, http://ec.europa.eu/research/era/pdf/european-parliament_en.pdf
[45] http://ec.europa.eu/research/era/progress-on-debate/institutional-debate_en.html

strengthening and expanding the ERA. The Committee notes that *"the objectives defined and proposals made by the Commission in the Green Paper are broadly correct and worthy of support, but they need to be supplemented and in some cases clarified or corrected" (*INT/358 – CESE 1440/2007, p.1).

Consultations with representatives of Member States' national administrations

Discussions on the ERA Green Paper were also held during CREST meeting of directors general from national research administrations on the 6th of July 2007, in Brussels. Other two CREST meetings focused on the ERA Green Paper took place in October and December 2007[46]. As regards, Member States' positions papers on the Green Paper, the consultation process continued after 31st of August 2007, to provide national administrations the necessary time frame for the preparations of their positions[47].

Consultations with scientific community, industry, and society

A broad on-line public consultation was also launched on the 1st of May 2007 and it was open until the 31st of August 2007. This on-line consultation was expected to trigger input from a variety of actors with interest and expertise in the further development and strengthening of the ERA: research institutions (including universities), researchers, industry, civil society organizations, national and regional public authorities as well as the general public.

Furthermore, the Commission set up a number of expert groups, each of them dealing with one of the six main areas in which improvements are needed, as identified by the Green Paper. In addition, three expert groups were established to explicitly focus on cross-cutting issues: ERA rationales; Governance issues and links with Lisbon strategy; Science and Society.

[46] CREST meetings on ERA Green Paper, http://ec.europa.eu/research/era/progress-on-debate/institutional-debate_en.html

[47] Interview with the head of Unit in charge with the European Research Area Policy, Brussels, SDME, July 18th 2007

Role of expert groups in shaping the ERA policy in the follow-up of the Green Paper

Setting up expert groups was not the only mechanism used by DG RTD to gather input on the issues presented in the ERA Green Paper. As shown in Chapter 3, the consultation and debate took place at various levels and consisted of a mix of (complementary) mechanisms: stakeholder consultation, institutional debate, seminars and conferences, expert groups. Each of these mechanisms had its own role to play in further shaping the development of the ERA at the thematic level (ERA dimensions: researchers, research infrastructures, research institutions etc) and overall policy vision: a rationale for ERA, governance issues and links with Lisbon Strategy, science in society.

The Green Paper announced that "on the basis of the results of the consultation and debate, the Commission intends to propose initiatives in 2008"(COM (2007)161 final, p.23). The Green Paper also underlined that "to accompany and support the debate, the Commission will organize focused events and *"use external expertise to elaborate on the issues presented for debate in the Green Paper*" (COM (2007)161 final, p.23). It is in this context that the expert groups were set up to deal with the specific ERA dimensions and cross-cutting issues spelled out in the Green Paper.

The aim of this chapter is to explore the role of expert groups in shaping the development of the ERA on its specific dimensions and overall vision, as spelled out in the Green Paper. The role of expert groups will be explored using a process-based conceptual approach: the process of interaction between expert groups and DG RTD will be studied using Wittrock's concepts of primacy of the domain and logics of the domains of science and policy. Each type of configuration (basically each of Wittrock's eight models) of the interaction between expert groups and DG RTD provides a conceptual representation of the role of expert groups in shaping the ERA policy. To strengthen the concreteness of these conceptual representations, empirical evidence

obtained from members of the expert groups and DG RTD will be integrated in the analysis.

4.1 Overview of expert groups

The rationale for setting up the expert groups was to gather input in the form of policy options and recommendations on how to take the ERA forward in all its dimensions and overall vision. The nature of six of the expert groups was thematic, each of them addressing one of the specific ERA dimensions set out in the Green Paper: researchers, research infrastructures, research institutions (with a focus on university-based research), knowledge sharing in the ERA, research programmes and priorities, opening ERA to the world: international cooperation in Science and Technology (S&T). Three other expert groups had a cross-cutting nature, dealing with issues such as: ERA vision, ERA governance issues and links with Lisbon Strategy, science in society. Two of the latter category of expert groups were not set up to deal with an explicit ERA dimension set out in the Green Paper. However, their work and analyses are closely related to the development of the ERA even beyond the Green Paper, and in an even broader context. Thus, the expert group for the follow-up of the revised Lisbon Strategy (April 2007) looks at ways to improve the links of the ERA with the Lisbon Strategy and vice-versa. 'Science in society' is not an expert group *per se*; it is rather an umbrella concept for contributions stemming from various sources of expertise: Report of the Expert Group on Science and Governance (the 'Wynne Report') 'Taking EU knowledge society seriously' (January 2007)[48], Report 'Historical perspectives on science, society and the political' of Dominique Pestre to the Science, Economy and Society Directorate, European Commission (January 2007)[49], Report of Demos think tank on the topic "See-

[48] Report of the Expert Group on Science and Governance (the 'Wynne Report') 'Taking EU knowledge society seriously' (January 2007), http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=119

[49] Report 'Historical perspectives on science, society and the political' of Dominique Pestre to the Science, Economy and Society Directorate, European Commission (January 2007), http://ec.europa.eu/research/science-society/document_library/pdf_06/report_from_historical_seminar_en.pdf

through science: why public engagement needs to move upstream" (2004)[50]. Even if the two expert groups on cross-cutting issues did not have a dedicated ERA dimension in the Green Paper, they were called to present their work at the High-level Conference on 'The Future of Science and Technology in Europe', organized in Lisbon, 8-10 October 2007. Given the aim of this chapter (to analyze in particular the role of experts in shaping the ERA specific dimensions and vision spelled out in the Green Paper), the role of the two expert groups will not be explored in an in-depth manner.

4.1.1 Composition of expert groups

As shown in Table 1 (Annex), the number of members of the expert groups varies from one group to another. According to the Terms of Reference (ToR) (section on "Number, identification, and selection of experts", common to all expert groups), each expert group consists of a certain number of members that will allow "a variety of views and approaches while keeping the size of the group manageable". The average number of experts in the thematic expert groups is approximately 12. The average number of experts in the cross-cutting issues group (except 'Science in society', for which it is difficult to sum up the total number of experts, given the various sources/strands of expertise) is approximately 9. In all cases (again except 'Science in society'), there is a high level of involvement of experts in at least one other (previous and/or current) expert group set up by DG RTD. In the case of the expert group on World-class research infrastructures the involvement is 100% (Table 1, Annex).

4.1.2 Background of experts

The ToR (section on "Number, identification, and selection of experts", common to all expert groups) mention several selection criteria related to the background of experts: "(…) with an emphasis on different institutional and national/regional viewpoints, and a

[50]The report is archived at http://www.demos.co.uk/files/Seethroughsciencefinal.pdf

good mixture of academic, industrial and policymaking backgrounds and professional experiences". As shown in Table 1 (Annex), the vast majority of members of the expert groups in the follow-up of the Green Paper belong to the academic world. The highest percentage (100%) is found in the case of the expert group on Research Institutions. Even if the key domain represented in the expert group was academia, "the chair as well as other members had been working with the business world"[51], being thus able to provide insights that are not exclusively academic. In selecting the members of this expert group, the priority was to bring in experts "that were experienced in the matter, and had a vision on the topic"[52].

Two other expert groups (Researchers and ERA Rationales) had around 80-90% of their members coming from academia. For the rest of the expert groups, the composition was more balanced: about half of the members of the expert groups came from academia, and the rest belonged to industry, national administrations of the Member States (MS), and SMEs.

4.1.3 Overall objective, mandate and tasks

The ToR (section "Introduction and overall objective" and section "Mandate, deliverables and timetable") spelled out the overall objective, mandate and tasks of each expert group. There is a great similarity in the way the objectives, mandate and tasks were formulated given the fact that the ToR were "adapted to the specific nature of each expert group, based on a generic template provided by the Unit in charge with the European Research Area Policy[53].

With one exception, each thematic expert group had the overall objective of identifying and defining possible measures and actions to address the issues under each ERA dimension. Existing expertise and the major messages coming from the debate launched by the Green Paper were to be taken into account by experts in achieving the

[51] Interview with one of DG RTD policy officers responsible for the expert group on Research Institutions; Brussels, SDME, April 7th 2008

[52] Ibid

[53] Interview with one of DG RTD policy officers responsible for the expert group "World-class research infrastructures"; Brussels, SDME, April 10th 2008

overall objective. The exception was the expert group on International Cooperation whose overall objective was to "assist relevant Commission services in the design of a broader International Scientific Cooperation Strategy"[54]. This is an indication of a direct link between the input/contribution of the expert group and the follow-up to their report by DG RTD, in other words the 2008 ERA initiative on International Cooperation (this point will be taken up in more detail in the next sections of this chapter). In the case of the expert groups on cross-cutting issues, the way the overall objective was formulated was different, given the nature of the policy issues they were tasked to address (Table 1, Annex).

Overall, each expert group, according to the ERA dimension in question, had the following set of tasks: first, review and assess the current situation (recent initiatives taken, current challenges and existing trends); based on this, identify issues which might require new policy initiatives; formulate evidence-based policy options and assess their impact; as a final task – analyze and integrate the results from the public consultation on the Green Paper. As they were set out in the ToR for the expert groups (Table 1, Annex), the tasks had a very generic formulation[55], not particularly adapted to fit the characteristics of the issues under each ERA dimension. However, as it will be shown further on, the tasks were discussed between DG RTD and expert groups, and this adds more specific information and supplementary explanations.

A key milestone in the work of the expert groups was the High-level Conference on 'The Future of Science and Technology in Europe', organized in Lisbon, 8-10 October 2007[56]. The Conference followed the format of several plenary sessions and 9 parallel sessions covering the six ERA thematic dimensions and the three cross-cutting topics. The parallel sessions brought substantial input to the work of DG RTD in drawing the main conclusions of the debate on the Green Paper, and in preparing the 2008 ERA initiatives.

[54] Terms of Reference for the ERA Expert Group "A wide opening to the world: international cooperation in S&T", p. 2

[55] Two exceptions: the tasks of the expert group on ERA Rationales and expert group on Knowledge Sharing were better adapted to the issues experts had to address (Table 1, Annex).

[56] http://ec.europa.eu/research/conferences/2007/fst/index_en.htm

Each of the expert groups prepared an interim policy option paper, which was presented to a large audience. The feedback from the audience was to be used by expert groups in building further on the ERA policy actions and recommendations (ToR, section "Deliverables and Timetable", common to all expert groups). The end result of the work of the expert groups was a final report that took into account various strands of sources: experts' knowledge, feedback from the Lisbon Conference, as well as the main messages stemming from the public consultation.

4.2 Logics of the domains of expert groups and DG Research (DG RTD)

The key domain members of the expert groups belong to is academia. Other domains also represented, but to a lesser extent, are: industry, SMEs, and national administrations of MS (Table 1, Annex). DG RTD staff responsible for the expert groups is composed of: policy officers, heads of units and deputy heads of units working in areas focused on the ERA dimensions (i.e. Unit C4 of DG RTD in charge with Universities and Researchers, Unit B3 of DG RTD in charge of Research Infrastructure, Unit D2 of DG RTD in charge with International Cooperation) and overall ERA policy vision (i.e. Unit C1 of DG RTD in charge with the European Research Area Policy). The higher-level management (directors) is involved in the process as well, but not in operational tasks such as those of the actual staff responsible for the expert groups. Overall, looking at the domains the two sets of actors (experts and DG RTD staff responsible for the expert groups) belong to, and decomposing these domains in several parameters (values, time, uncertainty, evidence and meanings – according to Radin, 2000, p.90) differences show up. Chapter 2 of the thesis also discusses some of these differences in terms of responsibilities and interests (Kuhlmann, 2002, pp.25-26). However, having different values, responsibilities and interests, different approaches to time, to tackling uncertainty and complexity, etc does not necessarily imply that expert groups and DG RTD are engaged in a distant, indirect type of interaction. Empirical evidence shows that the type of interaction between

expert groups and DG RTD is an indication of convergent logics of the two domains. Next, the indications of convergence will be examined and explained.

Expert groups and DG RTD interacted in a close and direct manner in the follow-up of the ERA Green Paper. The initial stages of the exercise of the expert groups (i.e. identification and selection of experts) and the way their work unfolded best reveal this close and direct interaction with DG RTD.

The process of identifying the members of each expert group shows that the main criteria used were: previous contacts and close relations between expert groups and DG RTD. According to the information in Table 1 (Annex), there was a high level of involvement of the members of each ERA expert group in other previous and/or current expert groups set up by DG RTD. Interviews with DG RTD staff responsible for the expert groups revealed that the identification of experts was based in each case on "previous work and collaborations of DG RTD with experts"[57]; "previous work and cooperation with experts on various other occasions (i.e. most of the experts present at Liege Conference in 2005, that had the objective of preparing the ground for the 2006 Communication on Universities, became part of the expert group on Research Institutions)"[58]; "having previously worked with DG RTD"[59]; "having had regular contacts with DG RTD and having been part of other expert groups on IPR issues"[60]; "previous involvement in other expert groups on research policy issues"[61]. In principle, the way experts are identified is based on using the CORDIS database[62] where experts can register for research activities. The database in updated on a permanent basis by an open-ended call for applications for setting up expert groups assisting the Commission's services for tasks in connection with the seventh RTD Framework Programme (ToR,

[57] Interview with DG RTD policy officer responsible for the expert group on Researchers; Brussels, SDME, April 15th 2008

[58] Interview with one of DG RTD policy officers responsible for the expert group on Research Institutions; Brussels, SDME, April 7th 2008

[59] Interview with one of DG RTD policy officers responsible for the expert group on Research Infrastructures; Brussels, SDME, April 10th 2008

[60] Interview with DG RTD policy officer responsible for the expert group on Knowledge Sharing; Brussels, SDME, April 11th 2008

[61] Interview with DG RTD policy officer responsible for the expert group on International Cooperation; Brussels, SDME, April 21st 2008

[62] https://cordis.europa.eu/emmfp7/

section on "Number, identification, and selection of experts", common to all expert groups). The fact that the database was not used as a key instrument for indentifying the experts (finding according to the interviews with DG RTD staff responsible for the expert groups) adds up to show the presence of a close network between expert groups and DG RTD. “CORDIS database is an image, below lays a big network of experts that is permanently evolving”[63]. When interviewed about the way they were identified and selected, experts also mentioned the existence of a close network with DG RTD: “CORDIS database, or databases in general, are good, but it is not a good idea to just rely on them all the time. DG RTD works closely with a big network of experts”[64]. Not only are the experts in regular contact and frequent collaboration with DG RTD, but they also belong to a so-called "community of experts, who are present almost all the time in the expert groups set by DG RTD on various research policy issues"[65].

The working method of each expert group also points out to a close and direct interaction between expert groups and DG RTD. The expert groups had on average five meetings[66] (according to the ToR, section on 'Working method of the expert group', common to all expert groups). The meetings were organized at the Commission premises (DG RTD office), which meant that expert groups performed their tasks in close contact with DG RTD staff. A brief overview of how these meetings proceeded in the case of the expert group on Research Infrastructures was given by one of the DG RTD staff members responsible for the expert group: "the meetings are cooperative and progress is being made from one meeting to another. Experts put forward ideas, ideas are discussed with RTD, and comments are made from both sides". DG RTD policy officers responsible for each of the expert groups were in regular contact with the chair and rapporteur/s of the expert groups to ensure "the smooth running of the group" (according to the ToR, section on 'Working method of the expert group', common to all

[63] Interview with one of DG RTD policy officers responsible for the expert group on Research Institutions; Brussels, SDME, April 7th 2008

[64] Interview with one of the members of the expert group on Knowledge Sharing; Brussels, SDME, April 15th 2008

[65] Interview with DG RTD policy officer responsible for the expert group on ERA Rationales; Brussels, SDME, April 4th 2008

[66] In addition to these meetings, experts also carried out their work remotely at their home or place of work (ToR, section on 'Working method of the expert group', common to all expert groups). Even so, in the work-related communications (mostly by e-mail) that took place between experts, the messages were always copied to DG RTD as well (interviews with DG RTD staff responsible for the expert groups)

expert groups). Experts and DG RTD staff interviewed revealed the presence of DG RTD in all meetings of the expert groups. According to the ToR, the presence of DG RTD in the meetings is primarily meant "to provide appropriate information and advice". The evidence coming from interviewing experts shows that the full presence of DG RTD in expert groups' meetings did not manifest in DG RTD staff taking the lead, trying to impose ideas in the expert group or getting involved in the work of experts more than necessary. On the contrary, experts view the presence of DG RTD in the meetings to be "indispensable"[67], "part of a normal process, not hampering the work of the expert group"[68], "not a problem for us (*experts, my note)* and did not inhibit sometimes very critical discussions"[69]. In terms of what the presence of DG RTD actually implied, it was overall agreement, with one exception[70], of the experts interviewed that DG RTD staff had a facilitating role, providing guidance, and additional information when needed. One of the rapporteurs of the expert group on Researchers summed up very well the role of DG RTD: "The right balance was found between coordinating the work to make the expert group efficient (and comply with the ToR) and leaving experts free to develop their ideas"[71].

The convergence between the logics of the domains of expert groups and DG RTD did not stem from the fact the two domains were identical in terms of values, time, uncertainty, evidence, meanings, responsibilities and interests. Even more so, when the two domains started interacting in the follow-up of the Green Paper, their interaction was not structured by the parameters of the domains they belonged to. Their interaction was defined and structured by a set of ToR, which spelled out the objectives, mandate and tasks of expert groups, the role of DG RTD responsible for the expert groups, the issues to be addressed by expert groups, deliverables and timetable, and the working

[67] Questionnaire filled in by one of the two rapporteurs of the expert group on Researchers, April 20th 2008
[68] Interview with one of the members of the expert group on Knowledge Sharing; Brussels, SDME, April 15th 2008
[69] Questionnaire filled in by the chair of the expert group on ERA Rationales, April 21st 2008
[70] The exception concerned the expert group on ERA Rationales, where, according to the chair and another member of the expert group interviewed, "DG RTD provided very little information when needed".
[71] Questionnaire filled in by one of the two rapporteurs of the expert group on Researchers, April 20th 2008

method. The convergence between the two domains is a case of a "seamless web-like interaction" (Van Eeten and Ten Heuvelhof, 1998, cited in Hoppe, 2002, p. 24) built up on a long practice of DG RTD setting up expert groups and frequently involving the same experts. Tracing back this long practice (in the case of ERA-related issues) leads to the context surrounding the emergence of the ERA, even before the 2000 Communication was launched. Setting temporal delimitations in analyzing the interaction between experts and DG RTD only served the purpose of this thesis and it was useful to deal with constraints imposed by lack of resources (i.e. time, sufficient empirical data). In reality, such delimitations are hard to establish, since interactions between experts and DG RTD display a long practice. Ideas on how to better organize research at the European level and what needs to be done to create the ERA were already central elements of debate in various expert circles outside DG RTD, long before the formulation of the 2000 ERA Communication itself (André, 2006; Caswill, 2003, in Edler et. al. (eds.); Caracostas, 2003, in Edler et. al. (eds.)). "*The European Research Area is the outcome of a long process, originally plotted out by researchers many years ago. Indeed, even before the Union came into being, scientists were creating a dynamic community co-operating in joint cross-border projects and active knowledge-pooling networks"* (The ERA: an internal knowledge market, European Commission, 2002). The vision of creating an ERA started to become the centre of various informal meetings between policymakers and experts from the scientific community[72]. All this shows that the ERA ideas and measures as set out in the 2000 ERA Communication were not particularly 'born' inside DG RTD, in 2000. Interactions between experts and DG RTD were present even before initiating the 2000 ERA Communication. Following the launch of the 2000 Communication, four expert groups were set by DG RTD to give advice on the seven areas of measures spelled out in the Communication[73].What is interesting to note is the presence of Alexandre Quintanilha (University of Porto, Institute of Molecular and Cellular Biology), chair of the 2000 ERA expert group on Material resources and their co-ordination, and also

[72] For instance, the informal meeting of Competitiveness Council – Research (20th of May 1999) which brought together policymakers and various experts from the scientific community, in COM (2000)6 final pp.7-8

[73] Chapter 3 offers more details on the four expert groups.

chair of the 2007 ERA expert group on Researchers, which is an indication of the frequent involvement of same experts in the expert groups set up by DG RTD. The ideas in the 2000 Communication were further developed by launching new policy documents. DG RTD continued to set up expert groups involved in advising on the way to take the ERA forward. Of course, it is not the purpose of the thesis to elaborate on the interaction between expert groups and DG RTD between ERA 2000 and ERA 2007, but a couple of examples are worth providing to illustrate the continuity of their interaction. For instance, the 2003 Communication on Investing in research: an action plan for Europe was based on several expert groups' reports set up by DG RTD to address "the effectiveness of direct public support measures in stimulating private investment in research in the context of the target of raising the EU' s expenditure on R&D to 3% by 2010"[74]. Looking at the members[75] of the expert group on "Raising EU R&D intensity: direct measures" gives yet another indication of the frequent involvement of same experts. A couple of examples: the chair of the expert group (Luke Georghiou, PREST, University of Manchester) was also the chair of the 2007 expert group on ERA Rationales; Jean Guinet (OECD, France) and Jari Romanainen (TEKES, Finland) members of the expert group were also invited to be part of the 2007 expert group on ERA Rationales, but "they finally did not participate"[76]. The composition of the expert group on "Raising EU R&D intensity: Guarantee Mechanisms"[77] gives another indication of the frequent involvement of the same experts: Philippe Laredo (ARMINES, France) was also a member of the 2007 expert group on ERA Rationales. Another expert group set up by DG RTD was in the follow-up of the Hampton Court Summit (October 27th 2005). The main conclusions of the Summit were centered on the key issues on which Europe needs to act to address the challenges of globalization. First among these issues were research and innovation[78].

[74] Final report of the expert group "Raising EU R&D intensity: Direct Measures", April 2003, p. 1, http://ec.europa.eu/invest-in-research/pdf/download_en/report_directmeasures.pdf
[75] Final report of the expert group "Raising EU R&D intensity: Direct Measures", April 2003, p. ix, http://ec.europa.eu/invest-in-research/pdf/download_en/report_directmeasures.pdf
[76] Interview with DG RTD policy officer responsible for the expert group on ERA Rationales; Brussels, SDME, April 4th 2008
[77] Final report of the expert group "Raising EU R&D intensity: Guarantee Mechanisms", April 2003, p. viii, http://ec.europa.eu/invest-in-research/pdf/download_en/report_guaranteemechanisms.pdf
[78] 2006 Aho group report "Creating an Innovative Europe", http://ec.europa.eu/invest-in-research/action/2006_ahogroup_en.htm

The expert group proposed a strategy focused on: creating innovation friendly markets, strengthening R&D resources, increasing structural mobility as well as fostering a culture which celebrates innovation[79]. One of the members[80] of the expert group was Luke Georghiou, PREST, University of Manchester.

These are but a few examples that served the purpose of illustrating the long practice of DG RTD setting up expert groups and frequently involving the same experts. This practice ultimately brought the domains of experts and DG RTD in close mutual relations, supporting their convergence. Maintaining a close and direct interaction with experts has a strategic value for DG RTD: being close to policymaking allows experts to get a deeper insight into the policy needs of DG RTD and thus they can develop relevant input in close connection to these needs. Setting up an expert group fully composed of experts who have never worked before with the Commission would "require a lot of time for experts to adapt to the workings of the Commission and the policy needs"[81]. Furthermore, the learning effect is not one-sided. Messages from the expert groups are taken up by DG RTD staff in their daily work of developing policies[82], and sometimes working with expert groups can also trigger changes in the personal views of DG RTD staff about research policy related issues[83].

[79] Creating an innovative Europe, report of the independent expert group on R&D and innovation appointed following the Hampton Court Summit and chaired by Mr. Esko Aho, January 2006, p. vii, http://ec.europa.eu/invest-in-research/pdf/download_en/aho_report.pdf

[80] Creating an innovative Europe, report of the independent expert group on R&D and innovation appointed following the Hampton Court Summit and chaired by Mr. Esko Aho, January 2006, p. v, http://ec.europa.eu/invest-in-research/pdf/download_en/aho_report.pdf

[81] Interview with DG RTD policy officer responsible for the expert group on International Cooperation; Brussels, SDME, April 21st 2008

[82] Interview with one of DG RTD policy officers responsible for the expert group on Research Infrastructures; Brussels, SDME, April 10th 2008

[83] Interview with DG RTD policy officer responsible for the expert group on ERA Rationales; Brussels, SDME, April 4th 2008

4.3 Scientific primacy and policy primacy in the interaction between expert groups and DG RTD

Who set the objectives in the follow-up of the Green Paper? Did the reports of the expert groups influence the ERA policy developments? Is DG RTD going to use the reports to feed the ERA policy developments? These are key questions which once answered will provide indications of scientific primacy (primacy of expert groups) and policy primacy (primacy of DG RTD). The questions correspond to two stages in the exercise of the expert groups: defining the Terms of Reference (ToR) and the follow-up to the reports (influence of the reports on the ERA developments; DG RTD decision of use or non-use of the reports).

4.3.1 Defining the Terms of Reference (ToR)

The exercise of each expert group was carried out in the framework of the ToR. The ToR provided guidance for each expert group in terms of the context in which experts were called upon to provide advice, the specific issues to be addressed by each expert group, deliverables and timetable, and operation of each expert group, which mainly refers to their working method. A key section of the ToR spells out the objectives, mandate and tasks of the expert groups. DG RTD staff responsible for each expert group had the tasks of writing the ToR and formulating the objectives, mandate and tasks. The ToR for each expert group represented "the needs of DG RTD"[84] in relation to the follow-up of the Green Paper and the steps to take the ERA forward in its six dimensions and overall vision. In principle, once defined by DG RTD, "the ToR are annexed to the contract, contract is signed and then the work of the expert group begins"[85]. If that principle applied entirely to the exercise of expert groups in the follow-up of the Green Paper, it would clearly be a case of a decisionist relation between DG RTD and expert groups, with DG RTD having the first and last say in

[84] Ibid
[85] Ibid

determining the objectives, mandate and tasks of experts. Interviews with experts and DG RTD staff revealed that, for the most part of expert groups, experts also had a say: the objectives, mandate and tasks had been discussed between DG RTD and expert groups. However, differences are noted, among expert groups concerning the scope of the discussions and the possibility of experts to make amendments. Next, these differences will be illustrated with empirical evidence from interviews with experts and DG RTD staff.

DG RTD policy officer responsible for the expert group on ERA Rationales wrote the ToR and formulated the objectives, mandate and tasks of the experts, "based on internal discussions"[86] first within the Unit and afterwards with more senior policy representatives. Discussions on the objectives, mandate and tasks took place with the chair of the expert group, who had "the opportunity to comment on and amend the mandate in several fairly minor ways"[87]. A meeting was also organized between DG RTD responsible for the expert group and all the members of the expert group: comments were made by experts on the mandate, objectives and tasks[88]. Similar evidence of defining the ToR and discussing them with experts also came from the expert group on International Cooperation and the expert group on Research Infrastructures. The members of the expert group on International Cooperation had the possibility to discuss the ToR as a whole as well as the individual tasks in particular. Once discussed and agreed between DG RTD and expert groups, the ToR were "strictly followed"[89]. During the discussions on the ToR held with the members of the expert group on Research Infrastructures, "there was agreement from experts on the ToR, no major changes, just a bit of fine-tuning of the main areas of specific contribution; this was approved by DG RTD"[90].

[86] Ibid
[87] Questionnaire filled in by the chair of the expert group on ERA Rationales, April 21st 2008
[88] Interview with one of the members of the expert group on ERA Rationales; Brussels, SDME, April 29th 2008
[89] Interview with DG RTD policy officer responsible for the expert group on International Cooperation; Brussels, SDME, April 21st 2008
[90] Interview with one of DG RTD policy officers responsible for the expert group on Research Infrastructures; Brussels, SDME, April 10th 2008

For all the cases of expert groups analyzed above, the ToR did not form a pre-fixed set of provisions with immediate and binding applicability for members of the expert groups. Discussions were held between DG RTD and experts on the objectives, mandate and tasks, as well as on the ToR as a whole. Experts made comments and proposed amendments that were then followed upon by DG RTD. In terms of primacy, these indications show a type of pragmatist/dialogical relation between expert groups and DG RTD: DG RTD did set the objectives, mandate and tasks, but experts had a say on this too; dialogue between the two sets of actors was based on extended, open discussions.

There were also cases when discussions with experts on the ToR were limited (i.e. only the chair of the expert group was involved) and their scope was only "to clarify objectives, no major modifications taking place and no extended talks with other members of the expert group"[91]. Even more so, no discussions on the ToR were held with the members of the expert group on Researchers. Even though members of this expert group agreed that there had been a lot of flexibility from DG RTD, "the only boundaries were the respect of the ToR"[92]. In terms of primacy, these cases show a decisionist relation between DG RTD and expert groups: DG RTD had the first and last say in determining the objectives, mandate and tasks; experts did not have the possibility to reflect and comment on this.

Analyzing the way the ToR were set for the expert groups in the follow-up of the Green Paper showed two nuanced meanings of primacy: pragmatist/dialogical (DG RTD determined the objectives, but experts also had a say by commenting and proposing changes) and decisionist (DG RTD had the first and last say in determining the objectives). The pragmatist/dialogical type of primacy was present in the majority of cases, while the decisionist primacy characterized only two expert groups. As a matter of fact, the pragmatist/dialogical primacy characterized the ERA Green Paper process on a much larger scale, beyond the scope of each expert group. The very beginning of the preparations for the Green Paper saw the involvement of experts, and exchanges of

[91] Interview with one of DG RTD policy officers responsible for the expert group on Research Institutions; Brussels, SDME, April 7th 2008

[92] Questionnaire filled in by one of the two rapporteurs of the expert group on Researchers, April 20th 2008

views between them and DG RTD took place on what should be the actual content of the Green Paper, which dimensions of the ERA needed further progress, how this progress can be achieved. "In the process of preparing the Green Paper, several hearings (about 4-5) of experts were organized by DG RTD to bring in informed ideas on what should be the next steps in strengthening the ERA. The early involvement of experts contributed to a preliminary shaping of the content of the Green Paper, on a subtle level, while the internal work of DG RTD together with the inter-service debate bear the overall direct and explicit impact on the shape and content of the Green Paper[93].

Overall, the input stage both in terms of the broader context of the preparations for the Green Paper and in the context of defining the ToR for the expert groups indicated a case of pragmatist/dialogical primacy.

In the following section, more indications of scientific primacy and policy primacy will be examined for the output stage, where decisions of the use or non-use of the reports were taken by DG RTD.

4.3.2 The follow-up to the reports by DG RTD

The work of each expert group resulted in a final report, containing policy recommendations for each concerned ERA dimension and overall ERA policy vision. The key message that came from the interviews with DG RTD staff responsible for the expert groups was that, overall, the reports of the expert groups were quite good "giving useful insights, analyses and policy recommendations. With some exceptions, "the reports will certainly find their natural follow-up in the preparation and implementation of the 2008 ERA initiatives and they are all very helpful in this regard"[94].

[93] Interview with the head of Unit in charge with the European Research Area Policy, Brussels, SDME, July 18th 2007

[94] Interview with DG RTD policy officer responsible for the expert group on ERA Rationales; Brussels, SDME, April 4th 2008

As first publicly announced in the Green Paper: "on the basis of the results of the consultation and debate, the Commission intends to propose initiatives in 2008"(COM (2007)161 final, p.23). Various Units inside DG RTD have been tasked with launching the ERA initiatives, which address five ERA dimensions: researchers, research infrastructures, research programmes, knowledge sharing, and international Science and Technology (S&T) cooperation. The exact title of the initiatives was spelled out in the Commission's 2008 Work Programme: a Commission Recommendation on the code of practice on the management of intellectual property (IP) by public research organizations, a Commission Communication on the promotion of mobility and careers of Europe's researchers, a Regulation on the legal framework for pan-European research infrastructures, a Commission Communication on joint programming and programmes, and a Commission Communication on a policy framework for international S&T cooperation[95]. The initiatives will be taken forward in partnership between the Members States (MS) and the Commission who will need to work on common goals in order to "deliver significant gains for Europe's research system and help create a "fifth freedom" in Europe – the freedom of knowledge"[96].

To be able to identify whether there were cases of scientific primacy or policy primacy at this stage, the influence of expert groups' reports on the five ERA initiatives will be examined. The influence of the reports is closely linked to the decision of DG RTD of use or non-use of the experts' reports, which was revealed during the interviews with DG RTD staff responsible for the expert groups. Next, the reports which DG RTD used in the preparation of the ERA initiatives will be analyzed.

The report of the expert group on Researchers proposed four cornerstones which in the view of experts are facing "obstacles and hindrances that continue to hamper the development of the ERA"[97]. Then, for each of these cornerstones, experts gave a number of policy recommendations that address a wide range of stakeholders in the

[95] Press release on the final results of the Public Consultation on the Green Paper, Brussels, 24 April 2008, http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/637&format=HTML&aged=0&language=EN&guiLanguage=en

[96] Internal briefing on the ERA Green Paper and the 2008 ERA initiatives, Brussels, May 16th 2008

[97] Final report of the ERA Expert Group "Realizing a single labour market for researchers", February 2008, p. 7

public and private sector. The policy recommendations require that involved stakeholders take action in the following areas: "attraction, ethical recruitment and retention of researchers; mobility in all its facets (geographical, sector, disciplinary and 'demographic'); researcher-friendly social security and supplementary pension systems; promoting knowledge and awareness of the European Charter for researchers and the Code of Conduct for their recruitment"[98]. Given the very wide scope of the report (from recruitment policy, social security issues to Code and Charter) and the time pressure that did not allow for deepening the ideas put forward, the report of the expert group is between good and very good, according to the DG RTD policy officer responsible for the group. The same type of evaluation was provided by members of the expert group as well: "the report is very good given the challenge to tackle very different subjects within one report produced by expert group members with very heterogeneous backgrounds; (…) the report is very good as it combines ambitious and creative propositions in a realistic approach. The final report contains short, mid and long-term proposals, which I believe was an excellent strategic view in the context"[99].

The DG RTD policy officer highlighted some of the good and useful elements in the report: the recommendations of experts on social security issues, the strong need to work with all stakeholders in view of having a very good fine-tuned strategy, the need to build knowledge sharing and cooperation with research institutions[100]. The ERA initiative on Researchers (Commission Communication on the promotion of mobility and careers of Europe's researchers) "closely reflects the recommendations made by experts"[101], and this is also clear looking at the Communication itself and the experts' recommendations. The Communication proposes a partnership between the Commission and the MS to define goals, actions and benchmarks, taking also into account stakeholders' initiatives, "in order to achieve by the end of 2010 rapid, measurable progress to: systematically open recruitment; meet the social security and

[98] Final report of the ERA Expert Group "Realizing a single labour market for researchers", February 2008, pp. 8-11

[99] Questionnaire filled in by one of the two rapporteurs of the expert group on Researchers, April 20th 2008

[100] Interview with DG RTD policy officer responsible for the expert group on Researchers; Brussels, SDME, April 15th 2008

[101] Internal presentation on the expert group report given by DG RTD policy officer responsible for the expert group on Researchers; Brussels, SDME, May 23rd 2008

supplementary pensions needs of mobile researchers; provide attractive employment and working conditions; and enhance the training, skills and experience of researchers"(COM(2008)317 final, p.5). The Communication was adopted on May 23rd 2008, and the ongoing work is to "establish effective governance arrangements"[102] to implement the Researchers' Partnership. The clear, direct influence of the report of the expert group on shaping the policy developments of the ERA dimension related to Researchers is an indication of scientific primacy.

The work of experts on the Research Infrastructures (RIs) dimension was also used to feed the preparation of the related ERA initiative: Regulation on the legal framework for pan-European research infrastructures. The expert group "fully focused"[103] on the issues presented in the Green Paper and provided policy recommendations in this framework. The recommendations concerned six areas where action needs to be taken via a "strategic coordination mechanism at EU level, involving all relevant stakeholders"[104]. The six areas are: priority setting and decision making for pan-European RIs; more and better funding for pan-European RIs; a legal framework for pan-European RIs; management of and access to RIs; E-infrastructures; RIs of global interest[105]. In the light of one particular event, DG RTD policy officer responsible for the expert group classified the report as very good: the positive feedback received at the Conference on Research Infrastructures and their Structuring Dimension within the ERA (5-6 March 2008)[106] on the report of the expert group ("participants to the conference showed a lot of interest in the report, considering it useful input"[107]). The messages that came from the experts' report helped policymakers realize that "the legal framework for RIs was not sufficient, it might be better, easier, and it might be

[102] Competitiveness Council Conclusions on the launch of the "Ljubljana Process" - towards full realisation of the ERA, Brussels, May 16th 2008

[103] Interview with one of DG RTD policy officers responsible for the expert group on Research Infrastructures; Brussels, SDME, April 10th 2008

[104] Internal presentation on the expert group report given by DG RTD policy officer responsible for the expert group on Research Infrastructures; Brussels, SDME, June 10th 2008

[105] Final report of the ERA Expert Group "World-class research infrastructures", February 2008, pp. 16-29

[106] Conference organized under the Slovenian presidency of the EU 2008. Members of the expert group on Research Infrastructures were also invited to present the findings and policy recommendations of their report, http://www.riera.si/program_eng.html

[107] Interview with one of DG RTD policy officers responsible for the expert group on Research Infrastructures; Brussels, SDME, April 10th 2008

improved"[108]. The report of the expert group (in particular the recommendations of experts on the legal framework for pan-European RIs) was used in the preparation of the Regulation on the legal framework for pan-European RIs. The recommendations of experts envisaged the following: "The Commission should develop a legal framework for pan-European RIs, based on Article 171 of the EC-Treaty. This regulation should provide a common and easy-to-use legal framework, leaving a high degree of flexibility to the individual consortia to set up the adequate rules for the specific infrastructure at European level"[109]. The Regulation was adopted on July 25th 2008. Apart from the direct influence of the report on the preparation of the Regulation, there is also a type of long-term impact, as the report "will be used for strategic planning of the Unit and implementation of future research infrastructures activities"[110]. The way the report of the expert group was followed-up in connection with the subsequent ERA policy developments is a clear indication of scientific primacy.

Another expert group whose input was used to feed the process of preparing the ERA initiatives had the task of addressing the Research Programmes (Joint Programming) dimension. The expert group endorsed the proposals made by DG RTD concerning "the promotion of common principles for peer review, quality assurance and joint evaluation of European, national and regional programmes and agencies and the development of joint foresight, involving the scientific community, society and industry" (COM (2007)161 final, pp.22-23). However, the work of the expert group did not limit itself to endorsing DG RTD proposals. The group provided several policy recommendations meant to address "the challenges and tasks at several policy levels (first the MS and the European Council and second the Commission) and for different stakeholders"[111]. The experts advised on the need of MS to develop a common vision with priorities for trans-national research; implement more strategic, sustainable and efficient trans-national programming and coordination; involve programme owners, programme managers and research actors in the whole policy design and implementation process. As for the

[108] Ibid
[109] Final report of the ERA Expert Group "World-class research infrastructures", February 2008, p. 21
[110] Interview with one of DG RTD policy officers responsible for the expert group on Research Infrastructures; Brussels, SDME, April 10th 2008
[111] Final report of the ERA Expert Group "Optimizing research programmes and priorities", February 2008, p. 38

Community level, experts advised the Commission to develop and share good practices from trans-national coordination and joint programming; provide common guidance and implementation tools; support the development of a common set of principles and operative guidelines[112]. The recommendations of the expert group were taken up by DG RTD and used to feed the preparation of the ERA initiative on Research Programmes: Commission Communication on joint programming and programmes. The Communication was adopted on July 15th 2008. The work of the expert group was referred to in a presentation by DG RTD at the Vinnova Annual Conference held in Stockholm on May 28th 2008. The main focus of the presentation was the new partnership to make the ERA vision a reality and, part of that, the 2008 ERA initiatives[113]. The influence of the report of the expert group in the preparation of the Communication on joint programming indicates again a case of scientific primacy.

Last, but not least, the report of the expert group on International Cooperation also had a direct influence on the related ERA initiative: Commission Communication on a policy framework for international Science & Technology (S&T) cooperation. Even the overall objective of the expert group ("to assist relevant Commission services in the design of a broader International Scientific Cooperation Strategy"[114]) reveals the close link between their work and the subsequent policy developments. The work of the expert group proved to be useful for DG RTD policymaking, and the final report was considered "very good". "The report was comprehensive; experts tackled several issues and brought empirical evidence in support"[115]. Experts gave a set of policy recommendations focused on: better use of Community instruments available for international cooperation in the process of collaboration with non-EU member countries; basic principles that should inspire the framework for international cooperation in S&T; optimizing cooperation with countries with different endowments; coordination among MS, EU and other stakeholders as a vital element for the domain of

[112] Ibid
[113] The global dimension of the ERA vision, presentation by DG RTD at the Vinnova Annual Conference, Stockholm, May 28th 2008
[114] Terms of Reference for the ERA Expert Group "A wide opening to the world: international cooperation in S&T", p. 2
[115] Interview with DG RTD policy officer responsible for the expert group on International Cooperation; Brussels, SDME, April 21st 2008

S&T; identifying priorities in S&T[116]. The experts' recommendations were "used in the preparation of the ERA Communication on the strategy for International Cooperation"[117]. The follow-up to the report of the expert group revealed a case of scientific primacy.

As far as empirical evidence showed, scientific primacy characterized four of the expert groups: Researchers, Research Infrastructures, Research Programmes, and International Cooperation. Their final reports had an immediate and direct influence on the subsequent ERA policy developments. However, the number of expert groups exceeded the number of ERA initiatives, which obviously makes room for investigating what was the contribution of the rest of the reports.

Although the report of the expert group on Knowledge Sharing was a good report ("good intrinsic quality of the report"[118]) there was no direct link between this report and the related ERA initiative: Commission Recommendation on the code of practice on the management of IP by public research organizations. Experts also agree on the good quality of the report: "in terms of quality, the report is good"[119]. The context and key factors that led to the IP Recommendation were: "work already carried out by DG RTD and by other previous expert groups in the field of IP"[120]. The work of the expert group on Knowledge Sharing was thus not a triggering factor for action in preparing the IP Recommendation. The IP Recommendation would have been launched, even if Knowledge Sharing had not been included as an ERA dimension in the Green Paper[121]. The relevance of including Knowledge Sharing as one of ERA dimensions and of setting up the related expert group is not questionable, but it does not bear any direct influence in relation to the IP Recommendation. The Recommendation was adopted on

[116] Final report of the ERA Expert Group "A wide opening to the world: international cooperation in S&T", March 2008, pp. 6-7
[117] Interview with DG RTD policy officer responsible for the expert group on International Cooperation; Brussels, SDME, April 21st 2008
[118] Interview with DG RTD policy officer responsible for the expert group on Knowledge Sharing; Brussels, SDME, April 11th 2008
[119] Interview with one of the members of the expert group on Knowledge Sharing; Brussels, SDME, April 15th 2008
[120] Interview with DG RTD policy officer responsible for the expert group on Knowledge Sharing; Brussels, SDME, April 11th 2008
[121] Ibid

April 10th 2008, followed by the Council endorsement on May 30th 2008[122]. The way the report of the expert group was followed-up shows a case of policy primacy. DG RTD policy activities and initiatives were already on track even before the ERA Green Paper adoption and the setting up of the expert group. Policy activities and previous initiatives had a relevant impact on the preparation of the IP Recommendation. However, the interview with the DG RTD responsible for the expert group underlined the fact that the report will not be left out; potential uses were reflected in a long-term perspective: "future policy activities at European and national level"[123].

The two reports for which no specific ERA initiatives had been launched are the report of the expert group on Research Institutions and the report of the expert group on ERA Rationales. As it will be further revealed the type of primacy differs in the two cases. Leaving aside the fact that no 2008 ERA initiative on Research Institutions was launched by DG RTD, the ideas and policy recommendations put forward by the expert group still did not have a specific follow-up or any influence on the current policy developments. The message coming from the interview with the DG RTD responsible for the expert group pointed out that the report did not go deeper into the diagnosis of the issues included in the Green Paper. The policy recommendations in the report were rather based on confirming the views and proposals integrated by DG RTD in the 2006 Communication on the agenda for modernizing universities. Receiving confirmation for the proposals in the Communication is useful (policymakers get more legitimization), and "in a way DG RTD can use the experts' policy recommendations, but they did not bring any new insights"[124]. The type of primacy found in the case of the follow-up of the report of the expert group on Research Institutions is policy primacy: the report did not have a direct influence on the subsequent ERA policy developments; DG RTD did not use the report to feed the preparation of any 2008 ERA initiative, but it went on with the implementation of previous policy documents (in particular the agenda for

[122]Press release on the main results of the Competitiveness Council, Brussels, 29-30 May 2008, http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/100792.pdf

[123] Interview with DG RTD policy officer responsible for the expert group on Knowledge Sharing; Brussels, SDME, April 11th 2008

[124] Interview with one of DG RTD policy officers responsible for the expert group on Research Institutions; Brussels, SDME, April 7th 2008

modernizing universities part of the 2006 Communication, and the Resolution of the Council in November 2007 adopting the Communication).

The report of the expert group on ERA Rationales triggered a lot of reflection inside DG RTD as well as positive feedback from the conferences where it had been presented by various members of the expert group. "Chair and rapporteur were invited to meet the Commissioner, Cabinet and Deputy Director General to discuss the findings and got a positive response. At a presentation within the Commission over 50 people came from at least 5 DGs despite short notice. The preliminary think piece at the Lisbon Conference provoked much debate"[125]. At the same time articles were published to promote the ideas presented in the report (i.e. article by the chair of the expert group in Nature based on the report[126]). Even if not related to any specific 2008 ERA initiative, the report was given a lot of attention, and the way DG RTD took up the experts' policy recommendations shows a case of scientific primacy. The report was considered "very good and the experts' line of thinking and the ideas presented were very appealing for policymakers, giving direction and feeding the policy in a broad way. The text of the report is rich, fed with broad knowledge of the research policy area"[127]. Up to a point the report supported the measures proposed in the Green Paper in connection with the need to fully realize the ERA vision, but the main message coming from the expert group was that "these were not enough"[128]. According to the policy recommendations given by experts, more is needed "to provide ERA with a clear purpose which is meaningful to Europe's citizens and political leaders and is relevant to its actors"[129]. The core concept proposed by experts was that of Grand Challenges "as a prime engine for driving and giving substance to the ERA. Grand challenges (…) are of sufficient scale and scope to capture the public and political imagination, create widespread interest among scientific and business communities and NGOs and inspire younger

[125] Questionnaire filled in by the chair of the expert group on ERA Rationales, April 21st 2008
[126] Ibid
[127] Interview with DG RTD policy officer responsible for the expert group on ERA Rationales; Brussels, SDME, April 4th 2008
[128] Questionnaire filled in by the chair of the expert group on ERA Rationales, April 21st 2008
[129] Final report of the ERA Expert Group "Challenging Europe's research: Rationales for the European Research Area", February 2008, p. 45

people"[130]. The key message that experts wanted to pin down by launching the concept of Grand Challenges was that realizing the ERA should not be an objective in itself. Even though efforts to address the deficiencies (fragmentation, sub-criticality, problems concerning concentration, specialization, cohesion etc) characterizing the European research system should be further pursued, this is not enough to justify a rationale for the ERA. The ERA should be taken further by giving it a higher and more meaningful purpose: contribute to addressing a series of economic, social, environmental, S&T challenges that affect Europe and its citizens. Two other relevant policy recommendations made by the expert group concerned research actors ("research-friendly ecology") and the need for closer links between European research and European policy. An essential element for the successful progress of the ERA is "a research system capable of delivery and engaged with higher education and the innovation environment"[131]. To this end, understanding the roles and interactions between actors and the conditions that prevent or make them possible is of paramount importance. The ideas and key messages coming from experts stimulated the reflections on the governance aspects of the ERA. "The spirit of the expert group report was also found in the Brdo European Council Conclusions"[132]. This will be analyzed in the following. The Brdo Council acknowledged that "Europe now needs to develop a common vision and effective governance of the ERA. Ministers agreed to carry forward this initiative under the name of the 'Ljubljana Process', which will see the efforts of the forthcoming EU Presidency trio (France, Czech Republic and Sweden) joined in order to ensure coherent and sustained progress in the near future"[133]. An important element of the vision for the ERA was, as highlighted at the Brdo Council: citizens benefiting from the contribution of large-scale R&D efforts to solve major societal challenges. This recalls the policy recommendation made by experts on the need to guide European research by a set of grand challenges that affect Europe and its citizens. Another

[130] Final report of the ERA Expert Group "Challenging Europe's research: Rationales for the European Research Area", February 2008, p. 37
[131] Final report of the ERA Expert Group "Challenging Europe's research: Rationales for the European Research Area", February 2008, p. 46
[132] Interview with one of the members of the expert group on ERA Rationales; Brussels, SDME, April 29th 2008
[133] Informal Meeting of Ministers for Competitiveness, Brdo, April 15th 2008, Draft Summary by the Presidency

recommendation put forward by experts (closer link to policies such as education, innovation) is reflected in the Brdo Council acknowledgment of the need "to develop the ERA and to build links with other policies, such as education, innovation and cohesion policies"[134]. The concrete, direct impact of the report is in conjunction with the ERA governance process started at Brdo.

Examining the indications of policy primacy and scientific primacy for the output stage (decision of DG RTD of use or non-use of the reports, influence of the reports on the subsequent policy developments) resulted in several key findings. On a case by case basis, there were differences among the reports, in terms of their added-value for policymaking, and more precisely in their uses for the preparation of the 2008 ERA initiatives. With two exceptions (the report of the expert group on Research Institutions and the report of the expert group on Knowledge Sharing), the reports were very useful for DG RTD in the preparation of the 2008 ERA initiatives and beyond (the case of the report on ERA Rationales). The vast majority of reports (Researchers, Research Infrastructures, Research Programmes, International Cooperation and ERA Rationales) had a direct and immediate influence on shaping the 2008 ERA policy developments, which reveals a case of scientific primacy. Policy primacy was also manifested; this was the case where DG RTD continued to build on previous work (either of policy nature or based on other strands of expertise) in the process of developing the concerned ERA dimensions (Research Institutions dimension and Knowledge Sharing dimension). As relevant as the work of these two expert groups and their final reports were, they did not have any direct impact on the subsequent ERA policy developments.

[134] Ibid

4.4 Role of expert groups in shaping the ERA policy dimensions and the overall ERA vision

Expert groups did have a role to play in shaping the ERA policy developments in the follow-up of the Green Paper. Analyzing the indications of primacy and type of logics of the domains in the input and output stages of the exercise of expert groups it became clear that experts contributed in both stages, but the most relevant role was played in the output stage, when experts' reports proved, in the majority of cases, to be very useful in the preparation of the 2008 ERA initiatives, aimed at taking the ERA forward in its specific areas (i.e. Researchers, Research Institutions, Research Programmes) and overall vision (a stronger driver for the ERA, better integration with other European policies). Looking through Wittrock's lenses, the analysis of the role of expert groups can go further than taking note of the fact that, indeed, expert groups had a relevant role to play. Various configurations (technocratic, policy-learning, engineering etc) of the interaction between expert groups and DG RTD are obtained as a result of linking the nature of their logics and the type of primacy. These configurations conceptually reflect the role of experts in shaping the ERA policy developments. However, the conceptual dimension of these configurations will be enriched with empirical evidence to increase the accuracy of the actual role of experts.

Figure 4 brings together the two dimensions (logics of the domains and primacy of the domain) and their nature as it was found in the interaction between DG RTD and expert groups in the follow-up of the ERA Green Paper.

Figure 4 The matrix of interaction between expert groups and DG RTD along two dimensions: logics of the domains and primacy of the domain

Logics of the domains of experts and DG RTD	**Primacy**		**Configurations of the role of experts**	
	Input stage	**Output stage**	**Input stage**	**Output stage**
Convergent	Pragmatist/dialogical primacy	Scientific primacy	Dialogical/integrative	Technocratic/ Policy-learning
	Decisionist primacy	Policy primacy	Engineering	Engineering

Concerning the logics of the two domains (expert groups and DG RTD), empirical evidence showed they were convergent throughout the entire exercise of the 2007 ERA expert groups. Indications of convergence were found in the close, direct and mutual interaction between experts and DG RTD, which as a matter of fact was not limited to the follow-up of the Green Paper. There is a long practice of close interaction between experts and DG RTD in the field of research policy, practice that as shown also involves brining in the same experts on a regular basis. The risk of accumulating the same ideas and views on research policy issues by involving the same experts (maintaining a so-called "pensée unique"[135]) was tackled by DG RTD staff during interviews. Obviously, the risk must be avoided; on the other hand "policy issues change", there is a "variety and richness of views" ensured by using a network approach ("experts are encouraged to talk to and invite other experts outside their expert group"[136]). Furthermore, "the specificity of DG RTD of having a big network of experts"[137], with whom "intense relations are developed" is not a weakness: this allows experts to get to "know very well the field of research policy, and acquire understanding of the policymaking as well". Equally, the learning effect is not one-sided. Messages from the expert groups are taken up by DG RTD staff in their daily work of developing policies[138], and sometimes working with expert groups can also trigger changes in the personal views of DG RTD staff about research policy related issues[139]. The convergence found between the domain of experts and the domain of policy (DG RTD) does not imply identical values, time perception, uncertainty, evidence, meanings, responsibilities and interests. "(…) there is close interaction between experts and policymakers, but they have different agendas"[140]. Wittrock (1991) placed this type of logics (not identical, yet compatible) in the extended matrix of social

[135] Interview with the director of Directorate C – European Research Area: Knowledge-based economy, Brussels, SDME, March 20th 2008
[136] Ibid
[137] Interview with DG RTD policy officer responsible for the expert group on ERA Rationales; Brussels, SDME, April 4th 2008
[138] Interview with one of DG RTD policy officers responsible for the expert group on Research Infrastructures; Brussels, SDME, April 10th 2008
[139] Interview with DG RTD policy officer responsible for the expert group on ERA Rationales; Brussels, SDME, April 4th 2008
[140] Interview with the head of Unit in charge with the European Research Area Policy, Brussels, SDME, July 18th 2007

knowledge and policy. However, this does not mean that the role of experts is bound to be reflected in one of the conceptual representations (models) found in the extended matrix: policy-learning model, social-problem-solving model etc.

The second dimension (primacy of the domain) has a part to play in identifying the role of experts too. The type of primacy was analyzed in two stages: input stage (defining the ToR) and output stage (follow-up to the reports by DG RTD: what influence the reports had on the ERA policy developments; decision of DG RTD of use or non-use of the reports). The analysis of the role of experts will go further with coupling the convergent logics with the various types of primacy found in the interaction between expert groups and DG RTD.

In the input stage, two main configurations of the interaction between expert groups and DG RTD are obtained. In light of Wittrock's models, the first configuration to identify is part of the main matrix of social knowledge and policy: the engineering model (convergent logics and policy primacy). There are two cases of expert groups (Research Institutions and Researchers) where DG RTD had the first and last say in determining the objectives, tasks and mandate. There were no discussions organized with experts at this stage; experts did not have any role in defining the ToR. The experts worked in the framework of pre-fixed objectives and delivered their reports accordingly. DG RTD being the only one in charge at this stage is an indication of decisionist primacy (based on indications used by Habermas, cited in Hoppe, 2002, pp.22-23). However, the analysis in the output stage will reveal whether the role of experts in the two cases increased by influencing the subsequent ERA policy developments.

The second configuration of the interaction between expert groups and DG RTD in the input stage does not necessarily reflect any particular Wittrock model. Except the two cases of expert groups mentioned above, the rest of cases showed that experts participated in the input stage with comments and proposals to make changes to the objectives set by DG RTD. Even if their comments did not re-invent the objectives, experts could still play a part. Wittrock does not have a model that captures and reflects the type of role of experts in these cases. The relation between DG RTD and experts in these cases was dialogical (based on indications used by Habermas, cited in Hoppe,

2002, pp.22-23) and integrative. Both categories of actors contributed in the input stage, and although their roles were not equal (experts only commented on objectives, while DG RTD fixed them in the first place), none of the actors was excluded from the process.

In the output stage the prevailing case was that of experts' reports having a direct and immediate influence on shaping the ERA policy in the follow-up of the Green Paper. The roles of expert groups can be elaborated and further specified in this stage. Based on Wittrock's models, scientific primacy and convergent logics (with a nuanced form that Wittrock gives to convergent logics: not identical logics, yet compatible) make up two types of configurations: technocratic and policy-learning. Within the technocratic configuration, the role of expert groups is reflected in their direct and immediate contribution to the preparation of the 2008 ERA initiatives. This was the case of four expert groups: Researchers, Research Infrastructures, Research Programmes and International Cooperation. As shown in detail in the section devoted to the follow-up to the reports by DG RTD, there was a direct link between the policy recommendations made by the four expert groups and the ERA policy initiatives launched by DG RTD in the follow-up of the Green Paper. The four expert groups played an instrumental role in shaping the ERA policy, having their policy recommendations taken up by DG RTD and translated into policy actions. The role of expert groups at this stage is also reflected in the policy-learning configuration. Besides the immediate and direct influence observed in connection to the 2008 ERA initiatives, two reports also triggered policy change in a broader sense, beyond the follow-up of the Green Paper. The report of the Research Infrastructures expert group triggered changes in the DG RTD policy ideas on how to develop a legal framework to facilitate the set-up and operation of new forms of pan-European research infrastructures. The messages coming from the experts' report helped policymakers realize that "the legal framework for RIs was not sufficient, it might be better, easier, and it might be improved"[141]. Thus, in addition to the instrumental role played in shaping the related ERA initiative, the expert group had a learning effect for policymakers, triggering policy changes in a long-term perspective:

[141] Interview with one of DG RTD policy officers responsible for the expert group on Research Infrastructures; Brussels, SDME, April 10th 2008

the report “will be used for strategic planning of the Unit and implementation of future research infrastructures activities”[142]. The report of the expert group on Researchers had a learning effect for policymakers as well, triggering changes additional to the direct contribution to the preparation of the related ERA initiative. The changes were reflected in policymakers becoming aware of the "the strong need to work with all stakeholders (i.e. the MS) in view of having a very good fine-tuned strategy to develop the Researchers' dimension, the need to build knowledge sharing and cooperation with research institutions, and the need to carefully consider the differences among the MS"[143]. The role of the expert group on Researchers increased considerably in the output stage compared to the input stage where experts did not have a role.

Even if the report of the expert group on ERA Rationales was not related to any specific ERA initiative, the role of experts was relevant and it is reflected in the policy-learning configuration. The ideas and policy recommendations put forward by experts in the report were not put at work and translated into policy actions in a way similar to the cases of expert groups on Researchers, Research Infrastructures, Research Programmes and International Cooperation, where the role of experts was first of all instrumental. The influence of the ERA Rationales report was felt in a broader policy perspective, triggering reflections inside DG RTD as well as at the political level (Brdo European Council ideas on the ERA vision and the ERA governance and the expert group's report are in line). The report itself is not meant to address short-term, but medium to long-term policy issues: developing the ERA by giving it stronger substance and better guidance is not a short-term effort. Bringing new ideas in the context of the ERA ("for example the need for a content dimension to the ERA and the need to capture the political and public imagination by addressing a series of Grand Challenges"[144]) contributed to policymakers becoming aware of the need to reflect deeper on the meaning of the ERA, which needs to go beyond the addition of the efforts undertaken on each of the ERA dimensions.

[142] Ibid
[143] Interview with DG RTD policy officer responsible for the expert group on Researchers; Brussels, SDME, April 15th 2008
[144] Questionnaire filled in by the chair of the expert group on ERA Rationales, April 21st 2008

There were only two cases (Research Institutions and Knowledge Sharing) in which the experts' reports did not have a direct link with the policy actions taken in the follow-up of the Green Paper. As the empirical evidence revealed the impact of the reports might materialize in the long run. For instance, in the case of Knowledge Sharing, the report "will not be left out of the picture; it may be used for other policy activities in the future, even used in the MS"[145]. However, no specific examples of which planned policy activities will be built on the reports of the two expert groups were given. And for the report on Research Institutions, there was no mentioning, for the moment, of the longer-term potential impact. The role of experts in the two cases is reflected in the engineering configuration: it was DG RTD that had the main role in the follow-up of the Green Paper continuing to build on previous work (either of policy nature or based on other strands of expertise) in the process of developing the concerned ERA dimensions (Research Institutions dimension and Knowledge Sharing dimension). As relevant as the work of these two expert groups and their final reports were, they did not have any direct impact on the subsequent ERA policy developments. The role of the expert group on Research Institutions did not change compared to the input stage, where again experts did not have a role.

The findings on the role of experts in shaping the ERA policy in the follow-up of the Green Paper showed that experts had various roles. Their roles depended on the stage analyzed (input and output stage) and the nature of the two dimensions (logics and primacy) of the interaction with DG RTD.

Throughout the entire exercise of the expert groups the constant element found was represented by the convergent logics of the domains of expert groups and DG RTD. While in the input stage primacy was analyzed based on indications used by Habermas (cited in Hoppe, 2002, pp.22-23) to depict the type of primacy, in the output stage the analysis was based on indications used by Scholten (2007) to identify the cases of scientific and policy primacy, reflected in the influence or non-influence of experts' reports on ERA policy developments.

[145] Interview with DG RTD policy officer responsible for the expert group on Knowledge Sharing; Brussels, SDME, April 11th 2008

In the input stage the role of experts was not so much about influencing policy developments. Their role was observed in connection to participating in discussions on the objectives, mandate and tasks. Even if the comments of experts did not lead to the reinvention of the ToR, they still played a part. The main idea behind this is that both experts and DG RTD contributed in this stage, in a dialogical and integrative manner. Although their roles were not equal (experts only commented on objectives, while DG RTD fixed them in the first place), none of the actors was excluded from the process. This dialogical/integrative configuration characterized the majority of the expert groups, with only two exceptions: the expert group on Research Institutions and the expert group on Researchers. The role of the two expert groups was best reflected in the engineering configuration. It was DG RTD that had the first and last say in determining the objectives, tasks and mandate. The experts worked in the framework of pre-fixed objectives and delivered their reports accordingly. However, in the output stage it was noticed that while the role of expert group on Research Institutions remained unchanged (their report did not influence the subsequent ERA policy developments), the role of expert group on Researchers increased significantly (their report was used to feed the preparation of the ERA initiative on Researchers and beyond).

The main role experts had in the output stage was reflected in the technocratic configuration. Experts' reports had a direct influence and were used by DG RTD in the preparation of the 2008 ERA initiatives. The instrumental role experts had at this stage characterized four expert groups: Researchers, Research Programmes, Research Infrastructures and International Cooperation. Policy-learning configuration was also found in the case of two of the above mentioned reports: Research Infrastructures and Researchers. In the two cases, experts' ideas and policy recommendations triggered learning effects for policymakers and changes broader than the 2008 ERA related initiatives. The role of the ERA Rationales expert group was substantially reflected in the policy-learning configuration. Not connected to any specific ERA initiative, the report was a trigger of wider reflections on the meaning of the ERA, the reasons to have the ERA, and the need to give the ERA a stronger content dimension. Two cases reflected the main role of DG RTD in shaping the ERA policy dimensions in the follow-up of the Green Paper: the case of the expert group on Research Institutions and

the expert group on Knowledge Sharing. The role of experts in the two cases was reflected in the engineering configuration: their reports did not influence the ERA policy developments; it was DG RTD that, based on previous work, continued to shape the policy on the two concerned ERA dimensions (Research Institutions and Knowledge Sharing).

Conclusions

This chapter is structured on four axes. The first consists of looking back on the main pillars of the research done in the thesis: What was the problem that triggered the research in the first place? In which context was the research situated? What was the aim that drove the research? The second is an exercise of taking stock of experiences in dealing with Wittrock's concepts. The third is taking stock of empirical findings. And the fourth is set to look beyond what has been accomplished in the thesis, and to explore the ways in which the research on the topic can be taken forward.

Looking back…

Despite the considerable amount of studies on the topic of expertise in policymaking, questions still remain unanswered: What is the relationship between various sources of external expertise and policymaking? What is the actual contribution and impact (if any) of external expertise in the process of shaping policies? Examining the research done on the topic of expertise in the EU policymaking revealed a similar situation: apart from acknowledging that external experts have become important actors of the European governance, either as pro-active agenda-setters or as resources for policymakers (EC, 2001a, p. 2), little is known about their actual contribution and impact on shaping policies. A recent report actually concluded that *"So far, in spite of their crucial role, very little has been written about Expert Groups; their place in the decision-making process, their influence, composition and methods of operation" (ALTER-EU report, 2008, p.6).* It was in this context that the thesis pursued a better understanding of the role of expert groups in shaping the Commission policymaking. The research did not aim at examining all the cases of expert groups set up by the Commission to address issues in its various policy areas. On the contrary, it had a clear thrust: role of expert groups set up by DG Research (DG RTD) in the follow-up of the ERA Green Paper, adopted by the Commission on April 4th 2007. Also, the research was not about analyzing processes and dynamics within expert groups or about how

these did or did not influence policy in any way. Equally, the focus was not on the individual roles of the members of the expert groups (i.e. the particular role of the chairperson, the rapporteur, or the rest of the members), but on the role of expert groups as entities and the impact of their collective inputs (their reports) on shaping the ERA policy. As such, the thesis provided an exploratory single-case study of the role of expert groups in shaping the ERA policy developments in the follow-up of the Green Paper.

Taking stock of experiences in dealing with Wittrock's concepts…

Unlike the tools of analysis focused only on one domain or another (i.e. scales designed to measure expertise utilization, which are particularly concerned with the study of the domain of expertise), the approach used in the thesis made it possible to capture and integrate both domains (expert groups and DG RTD) in addressing the central issue: role of expert groups. The approach was based on the concepts used by Wittrock (1991) in his work on the relation between social knowledge and policy. The concepts allow for exploring the interaction between science and policy along two dimensions: primacy of the domain and logics of the domains. Primacy of the domain is meant to assist in identifying which of the two domains has primacy over the other or vice versa. Logics of the domains help in looking at the convergence or divergence of the two domains.

The main strength of the two concepts was that they brought both domains (expert groups and DG RTD) together into the analysis; by doing so, the concepts helped explore the role of expert groups in the light of the various configurations taken by the interaction between expert groups and DG RTD.

The concepts, in the form used by Wittrock (1991), displayed a series of weaknesses as well. The weaknesses were discovered when trying to put the concepts at work in the analysis of the role of expert groups in shaping the ERA policy. The weaknesses stemmed from the fact that Wittrock did not go further into actually defining the concepts, nor did he provide indications to look at when empirically analyzing, for instance, whether one domain has primacy over the other. The lack of an explicit

definition of the concepts and of indications of scientific/policy primacy and convergence/divergence/in-between state of the logics of the domains posed serious obstacles for the analysis in the empirical part of the thesis. However, the obstacles were overcome by making appeal to constructs and ideas found in the work of other authors. Thus, to be able to put at work the concept of primacy of the domain the work of Habermas (cited in Hoppe, 2002, pp. 22-23) was used. The indication that Habermas offers for looking whether one deals with a case of scientific and/or policy primacy is the *goals and the choice of means*. Nuanced meanings of primacy result according to whether the goals and means are fully set by policy (decisionist), by science (technocratic) or whether it is a joint contribution (pragmatist or dialogical). Indications of scientific and policy primacy were also found in the work of Scholten (2007). According to Scholten, the influence of research on policy developments is an indication of scientific primacy; vice versa, the influence of policy actors in research programming is an indication of policy primacy. As for the logics of the domains, in order to be able to put them at work, the indications found in Scholten's work were used. Scholten (2007) analyzed convergence or divergence "in the extent to which science and policy interacted either directly (close mutual relations) or more indirectly (at a distance).

Finally, after going through a fine-tuning process, the concepts were ready to be used as follows: in the input stage (defining the Terms of Reference) primacy was analyzed based on indications used by Habermas (cited in Hoppe, 2002); in the output stage (follow-up to the reports by DG RTD) the analysis was based on indications used by Scholten (2007) to identify the cases of scientific and policy primacy, reflected in the influence or non-influence of experts' reports on ERA policy developments.

The analysis of policy primacy and scientific primacy in two stages (input and output) was both justified and needed. The justification was based on the fact that the role of expert groups was analyzed in the framework of their interaction with DG RTD. The interaction did not happen in a unique, single given moment in time, but was marked by several moments: identification, selection of experts, organizing meetings and hearings of experts prior to the commencement of their work, discussions organized to clarify the objectives, mandate and tasks, evolution of the work of experts from the

preliminary to the final format of their reports. To help systematically carry out the analysis, the various moments in the interaction between expert groups and DG RTD were compressed in two main stages: defining the Terms of Reference, in other words the input stage (mainly connected with setting the agenda, defining objectives, mandate and tasks); and follow-up to the reports by DG RTD (the output stage) where the contribution and impact of expert's reports on the ERA policy developments were analyzed. Furthermore, the justification to have the two-stage analysis was based on empirical observations, access to primary sources of information (i.e. the Terms of Reference for each expert group) and access to key respondents. The need to conduct such an analysis was to have a comprehensive picture of the evolution of primacy (policy and scientific) throughout the exercise of the expert groups and their interaction with DG RTD, and not to have a picture of only one moment or another of this interaction.

The choice of indicators to assist in identifying the cases of policy primacy and scientific primacy in the input and output stages was based on the nature of the issues to be addressed in each of the two stages. Who set the objectives, mandate and tasks? - was to key issue addressed in the input stage. The indication offered by Haberams (goals and the choice of means) was very useful to look whether one dealt with a case of scientific and/or policy primacy in the input stage. Did the reports of the expert groups influence the ERA policy developments? Did DG RTD use the reports to feed the ERA policy developments? – were the key issues addressed in the output stage. The indication offered by Scholten (influence of research on policy developments is an indication of scientific primacy; vice versa, the influence of policy actors in research programming is an indication of policy primacy) was relevant to identify the cases of policy primacy and scientific primacy in the output stage.

The second concept, logics of the domains, was examined to the extent in which expert groups and DG RTD interacted in a direct, close manner, or in an indirect manner, rather being at a distance from one another. Convergent logics of the domains (expert groups and DG RTD) are based on the existence of close, direct interaction between the two. Divergent logics of the domains are based on a distant, indirect type of interaction.

Concretely, the type of interaction found in the case of expert groups and DG RTD was close, direct, based on a long practice of collaboration and work on research policy issues. The way experts were identified and the evolution of their work throughout the exercise of the 2007 ERA expert groups best revealed the close and direct interaction with DG RTD. Furthermore, the practice of involving the same experts on a frequent basis helped bring the two domains in close mutual relations, supporting their convergence. Maintaining a close and direct interaction with experts has a strategic value for DG RTD: being close to policymaking allows experts to get a deeper insight into the policy needs of DG RTD, and thus they can develop relevant input in close connection to these needs. Vice-versa, relevant messages from the expert groups are taken up by DG RTD staff in their daily work of developing policies; sometimes working with expert groups can also trigger changes in the personal views of DG RTD staff about research policy related issues.

The main conclusion that comes from the experience of dealing with Wittrock's concepts of primacy of the domain and logics of the domains is the following: despite their strengths, the concepts cannot be used alone in the form provided by Wittrock. The experience in this thesis showed that the concepts needed further clarifications and fine-tuning if they were to be used properly in the analysis of the role of expert groups. One way to clarify and fine-tune the concepts was to make appeal to the work of other authors in the field. Further, even used in a fine-tuned format, the concepts were not blindly thrown over 'reality'. As an illustration, in the input stage (defining the Terms of Reference), one of the configurations of the interaction between expert groups and DG RTD did not reflect any particular Wittrock model. The relation between DG RTD and expert groups was dialogical and integrative. Wittrock does not have a model that captures and reflects the type of role of experts in these cases. The empirical evidence played a great part in supporting the analysis and it helped increase the accuracy of the findings on the role of expert groups in shaping the ERA policy.

Taking stock of empirical findings….

What was then the role of expert groups in shaping the ERA policy dimensions spelled out in the Green Paper? This section will deal with the answer to this question by recalling the main empirical findings.

Overall, expert groups had indeed a relevant role to play in shaping the ERA policy developments in the follow-up of the Green Paper. Using Wittrock's concepts (in the fine-tuned format), it was possible to further clarify the role played by each expert group. Expert groups had various roles, according to the stage analyzed (input and output stage) and the type of configuration of their (expert groups) interaction with DG RTD.

The input stage was concerned with defining the Terms of Reference (ToR), in other words setting the agenda, defining objectives, mandate and tasks. The output stage was concerned with the follow-up to the expert's reports by DG RTD: Did the reports of the expert groups influence the ERA policy developments? Did DG RTD use the reports to feed the ERA policy developments? – were the key issues addressed in this stage. The interaction of expert groups with DG RTD throughout the two stages revealed various types of configurations (i.e. technocratic, policy-learning, engineering etc), meant to conceptually reflect the role of experts in shaping the ERA policy developments. However, the configurations were not taken for granted. Empirical evidence and observations helped increase the accuracy of the role of expert groups. The various configurations were obtained linking the nature of the logics and the type of primacy found in the two stages. Concerning the logics of the two domains (expert groups and DG RTD), empirical evidence showed they were convergent throughout the entire exercise of the 2007 ERA expert groups. Indications of convergence were found in the close, direct and mutual interaction between experts and DG RTD, which as a matter of fact was not limited to the follow-up of the Green Paper. As for the type of primacy, the findings revealed that, overall the input stage was characterized by a case of pragmatist/dialogical primacy. The output stage showed that the vast majority of expert groups' reports (Researchers, Research Infrastructures, Research Programmes, International Cooperation and ERA Rationales) had a direct and immediate influence

on shaping the 2008 ERA policy developments, which reveals a case of scientific primacy.

Next, a summary of the role of expert groups in the two stages of analysis will be made. In the input stage the role of experts was not so much about influencing policy developments. Their role was observed in connection to participating in the process of discussions on the Terms of Reference (ToR). Even if the comments of experts did not lead to the reinvention of the ToR, they still played a part. The main idea behind this is that both experts and DG RTD contributed in this stage, in a dialogical and integrative manner. Although their roles were not equal (experts only commented on objectives, while DG RTD fixed them in the first place), none of the actors was excluded from the process. This dialogical/integrative configuration characterized the majority of the expert groups, with only two exceptions: the expert group on Research Institutions and the expert group on Researchers. For these two expert groups, DG RTD that had the first and last say in defining the objectives, tasks and mandate. In the output stage, the main role experts played was reflected in the technocratic configuration. Experts' reports had a direct influence and were used by DG RTD in the preparation of the 2008 ERA initiatives. The instrumental role experts had at this stage characterized four expert groups: Researchers, Research Programmes, Research Infrastructures and International Cooperation. Another role experts had in the output stage was to be found in the policy-learning configuration. In two cases (Research Infrastructures and Researchers) experts' ideas and policy recommendations triggered learning effects for policymakers and changes broader than the 2008 ERA related initiatives.

The case of the expert group on ERA Rationales was special: even if not connected to any specific 2008 ERA initiative, the experts' report was a trigger of wider reflections (inside and outside DG RTD) on the meaning of the ERA, the reasons to have the ERA, and the need to give the ERA a stronger content dimension. The role of the ERA Rationales expert group was substantially reflected in the policy-learning configuration. There were only two cases of expert groups (Research Institutions and Knowledge Sharing) whose reports did not contribute to shaping the ERA policy developments in the follow-up of the Green Paper. As relevant as the work of these two expert groups

and their final reports were, they did not have any direct impact on the subsequent ERA policy developments. That does not mean the reports will be left out and no possible uses envisaged. But, for the moment policymakers have the main role in shaping the policy on the two concerned ERA dimensions.

Based on the relevant contribution brought by experts in shaping the ERA policy developments, the exercise of the 2007 ERA expert groups was a success. The key message that came from the interviews with DG RTD staff responsible for the expert groups was that, overall, the reports of the expert groups were good, providing useful insights, analyses and policy recommendations. Furthermore, as shown, there were also cases when the messages from the expert groups triggered reflections and policy changes beyond the scope of the 2008 ERA initiatives, or even changes in the personal views of DG RTD staff about research policy related issues. The exercise of the 2007 ERA expert groups was also a success in terms of the relation and collaboration between expert groups and DG RTD. During interviews, members of the expert groups and DG RTD staff responsible for the expert groups looked back on their collaboration with each other, and outlined positive experiences in this regard. The recurring theme was that the relation between experts and DG RTD evolved well, based on mutual collaboration, respect and trust.

Looking ahead …

The overarching aim of the thesis was to contribute to the understanding of the role of expert groups in shaping the European Commission policymaking. Despite its advantages, the exploratory single-case study used cannot give all the answers, nor can it provide a full understanding of the topic studied. First and foremost, the empirical findings on the role of expert groups in shaping the ERA policy in the follow-up of the Green Paper concern the specific context and the actors analyzed. The findings cannot be generalized to other policy contexts and with regard to other expert groups which are or will be set up by the Commission services. However, not the same thing can be stated when it comes to matters of theoretical generalization. The conceptual approach

that guided the analysis in the thesis (the fine-tuned Wittrock's concepts of primacy of the domain and logics of the domains) can be used in the study of the same topic (role of expert groups in policymaking) in other policy areas. In this context, two avenues for further research will be explored next.

The first avenue for research is directed at deepening the study of the policy issue already examined. This could be done by taking another milestone in the development of the ERA policy and exploring the role of expert groups in this case. One such milestone is in fact the 2000 ERA Communication which marked the creation of the ERA. The result of including the 2000 ERA milestone is having a longitudinal case: *studying the same single case at two or more different points in time* (Yin, 2003, p. 42). This type of study gives the possibility to look at how conditions changed over time and whether any modifications occurred in the role of expert groups set up in the two policy contexts (adoption of the 2000 ERA Communication and of the 2007 ERA Green Paper). A comparative analysis of the two ERA milestones can give a much deeper insight into the role of expert groups in shaping the European research policy.

The second avenue for research aims at enlarging the scope of the study. To this end, the single-case study of the role of the 2007 ERA expert groups may be used as a *pilot case that could be the first of a multiple-case study* (Yin, 2003, p. 42). To illustrate with an example: the research approach could entail three systematic case-studies of the role of expert groups in three different EU policy areas. One policy area (research policy) has already been examined. Research policy is one of the areas showing a high degree of using expert groups in policymaking: *DG Research, DG Environment and DG Enterprise being so-called 'super users' of expert groups, all having 120 or more expert groups* (Gornitzka and Sverdrup, 2007, pp.11-12). It would be interesting to explore two other policy areas which do not display the same degree of the use of expert groups. As Eisenhardt writes "it makes sense to choose cases such as extreme situations and polar types in which the process of interest is 'transparently observable' (Eisenhardt, 1989, p. 537). The type of multiple-case study will ensure a greater level of generalization of results and findings on the role of expert groups in the European Commission policymaking. "(…) most multiple-case designs are likely to be stronger

than single-case designs. Trying to use even a ‘two-case’ design is therefore a worthy objective (…) (Yin, 2003, p. 19).

Appendix

Research methodology

The main objective of this section is to show the methodology that helped advance the path from identifying the problem, to formulating the research questions, to providing answers and finally to reaching conclusions. The key questions addressed in this section are: Why the case study approach? What research methods were used? and What was the method of analysis?

Case study approach

The research strategy used in the thesis was the case study. Eisenhardt (1989) mentions that this strategy is *especially appropriate in new topic areas*. Yin (2003) completes the picture by adding new conditions to think of when choosing the case study approach: *the focus is on a contemporary phenomenon within some real-life context, the investigator has little control over events, research questions focus mainly on 'what', 'how' and 'why' questions*. Next, it will be shown the way these conditions were met in the thesis and lead to the choice of the case study approach. First, the topic dealt with was fairly new. The study of the relation between expertise and policymaking has received a lot of attention over the last few decades. Extensive research has been done to help understand important aspects concerning expertise in policymaking. However, the specific issue addressed in the thesis has not been systematically investigated. Expert groups, as one of the most frequently used sources of expertise (Gornitzka and Sverdrup, 2007), are in need of greater attention and more systematic investigations of their role and impact on shaping Commission policies. As one recently published report by ALTER-EU concludes "*So far, in spite of their crucial role, very little has been written about Expert Groups; their place in the decision-making process, their influence, composition and methods of operation" (ALTER-EU report, 2008, p.6).* Second, the topic studied was contemporary, continuously evolving and adding new

facets to the analysis. The role of expert groups was examined in the context of the follow-up of the ERA Green Paper, adopted by the Commission on April 4th 2007. The exercise of the expert groups evolved from June/July 2007 to December 2007. Their reports were finalized and handed in during the months January/February 2008. Third, the events were not under the control of the investigator, as it would be the case, for instance, of an experiment to be conducted in a controlled environment. Last, but not least, the questions being posed in the study were the type of 'what' questions which are best addressed in the framework of an *exploratory case study* (Yin, 2003, pp. 5-6).

As for the type of design, the thesis followed the design of an *exploratory case study* aimed at contributing to the knowledge and understanding of the role of expert groups in Commission policymaking. The research involved a *single-case*: the case of the expert groups set up by DG RTD in the follow-up of the ERA Green Paper. Their (expert groups) role was analyzed in connection with the shaping of the 2008 ERA policy initiatives. The rationale behind the selection of this single-case study was the opportunity to observe and be part of the ERA policy activities and developments in the follow-up of the ERA Green Paper. This was possible during a five-month (March-July 2008) stage in DG RTD in the Unit in charge with the coordination and development of the ERA policy. The five-month period was a great chance to observe the developments related to the 2008 ERA initiatives, to analyze how the input of the expert groups was taken up by policymakers. Being close to these developments made it also possible to have easier access to key actors (DG RTD staff responsible for the expert groups and members of the experts groups).

Using a single-case study required cautiousness in generalizing the experts' contribution and influence on the specific ERA policy developments. The findings belonged to and concerned the particular ERA policy context and they cannot be extrapolated to other policy contexts in which expert groups are or will be set up by the Commission services. However, the advantage of having a single-case study was the possibility to focus in-depth on the expert groups concerned and their role on shaping the ERA policy developments. Also, concentrating on a single case enabled to find out

more about the nature of the interaction between expert groups and DG RTD and about the context in which this interaction evolved: the follow-up of the ERA Green Paper.

Research methods

It was very important in the research design to have a ***valid and reliable chain of evidence*** (Yin, 2003, p.105) from the questions posed at the beginning of the study to the findings provided and conclusions reached. The questions formulated in the study were based on: the identification of the big topic of study (external expertise in the Commission policymaking), and the problem to be addressed (lack of systematic investigation of the role of expert groups in the Commission policymaking). The research questions provided a better grounding and acted as a guiding tool for conducting the research in a rigorous manner. The role of expert groups was examined with regard to one policy (the ERA policy); a useful approach proved to be the analysis of the context in which the expert groups were set up by DG RTD: the policy document which set the ground for the relaunching of the ERA - 2007 Green Paper 'The European Research Area: New Perspectives'; the factors that contributed to the formulation of the 2007 Green Paper, the actors involved in the initiation, shaping and adoption of the Green Paper. Even more so, the 2007 ERA milestone was integrated in the wider context of the emergence and development of the ERA policy. This exercise was carried out with the attempt to give a good overview of the policy itself: how the ERA came to be, how it evolved from an idea to the status of a practical policy, and what the new context for the ERA looks like. The next step zoomed in on the central issue: the role of expert groups in shaping the ERA policy in the follow-up of the Green Paper. Following this, the resultant findings were revealed. The final step was to reach overall conclusions.

Several methods were used to construct the chain of evidence: interviewing, document analysis, study and review of secondary sources.

Interviewing played a central role in gathering the specific type of information concerning the case study analyzed. The information helped enrich the analysis of the

role of expert groups in shaping the ERA policy developments. The interviewees belonged to two categories: DG RTD staff responsible for the expert groups and members of the expert groups. It was very important to take into account both categories of actors (policymakers and experts) in order to achieve a comprehensive picture and to prevent the risk of biased research findings. The first category of actors interviewed were the DG RTD staff responsible for the expert groups. Six members of the DG RTD staff responsible for the expert groups were interviewed in the period 4-30 April 2008. The interviews took place at DG RTD premises. The identification of DG RTD staff responsible for the expert groups was possible thanks to the help and useful input of the Head of Unit in charge with the ERA policy development and of other colleagues in the same Unit. The interviews were semi-structured. A set of questions was prepared in advance and used to guide the interviews. However, the interviews were also open to allow the interviewees to express their own opinions on the issues studied, as long as these opinions were still connected to the questions prepared. The questions were prepared based on the research questions formulated at the beginning of the study. The issues focused upon in the questions for the interviews with DG RTD staff responsible for the expert groups were: context in which the concerned expert group was set up; identification and selection of experts; the objectives, mandate and tasks of experts; the way the work and collaboration between experts and DG RTD unfolded; the specific role and presence of DG RTD in the concerned expert group; follow-up to the report of the concerned expert group by DG RTD. The questions were formulated in the form of "what", "who" and "how" questions. The type of "why" questions were avoided given "*(…) the important difference in actually posing a 'why' question to an informant (which creates defensiveness on the informant's part) in contrast to posing a 'how' question – the latter, in fact, being his preferred way of addressing any 'why' question in an actual conversation"* (Yin, 2003, p. 90).

Besides the interviews with the DG RTD staff responsible for the expert groups, two other interviews with actors from the policymakers' category were organized: an interview with the Head of Unit in charge with the ERA policy (the interview took place on July 18th 2007); and an interview with the director of Directorate C – European Research Area: Knowledge-based economy (the interview took place on

March 20th 2008). The two interviews were different from the interviews with the DG RTD staff responsible for the expert groups. While the members of the DG RTD staff responsible for the expert groups were asked questions targeted to specific issues (as shown above), the Head of Unit and the Director were asked to address a series of points that aimed at giving the investigator an overview of the context surrounding the topic studied. The aim was not to delve into specific information that gave access to the level of each expert group; this type of information was obtained during the interviews with the DG RTD staff responsible for the expert groups.

The second category of actors interviewed were the members of the expert groups. The snowballing technique was used to identify the interviewees from this category. The members of the DG RTD staff responsible for the expert groups were asked their opinion in the selection of the second category of interviewees: members of the expert groups. Two interviews were organized in the period 4-30 April 2008. The interviews took place at DG RTD premises. The interviewees were two members of two different expert groups: Knowledge Sharing and ERA Rationales. The interviews were semi-structured. The issues the interviewees were asked to address were meant to complement and enrich the information obtained during the interviews with DG RTD staff responsible for the expert groups. The questions were formulated in the form of "what", "who" and "how" questions. As for the other expert groups, there was no possibility to organize interviews, so questionnaires were sent to the members of the expert groups (in most cases to the chairperson and the rapporteur/s).
All the interviews organized and all the questionnaires sent out were an essential source of information for the case study. Interviewing proved to be a very useful method for reconstructing the issues studied and for providing relevant insight into the exercise of each expert group.

Document analysis was another research method used in building the chain of evidence. The primary documents most relevant to the case study were: Commission policy documents (i.e. 2007 ERA Green Paper and its the accompanying document; 2008 ERA policy initiatives), the reports of the expert groups in the follow-up of the ERA

Green Paper. The Terms of Reference (ToR) for the ERA expert groups were a valuable source of information, giving a very good insight into the objectives, mandate and tasks of experts, the issues they were called upon to address, and the working method of the expert groups. DG RTD members of the staff responsible for the expert groups were very helpful and provided access to this source of information.

Last, but not least, *the study of secondary sources* helped sketch out the picture of the most important issues that have been addressed in relation to the topic of expertise in policymaking. The review of literature was useful in locating the thesis in the broader context of research conducted so far in the field. Having identified the broader context and the research problem, the next step – formulating the research questions – was easy to move on to.

In addition to the research methods described above, the *observation and participation* in the ERA policy developments as part of a five-month (March-July 2008) stage in DG RTD (Unit in charge with the ERA policy development) was a priceless contribution to the understanding of the topic and the structuring of the empirical analysis. Furthermore, it made it possible to get in contact with the key actors involved: DG RTD staff responsible for the expert groups and members of the expert groups.

Method of analysis

The method of analysis used in the thesis was based on combining data from multiple sources (interviews, primary sources and secondary sources). *"(…) a major strength of case study data collection is the opportunity to use many different sources of evidence"* (Yin, 2003, p. 97). Integrating the evidence from multiple sources reduced the bias obtained if, for instance, only a single source had been used. The method of analysis proved to be very useful since the research questions formulated at the outset of the study required answers based on various sources and obtained through multiple research methods. The analysis of the central issue of the study – role of expert groups in shaping the ERA policy developments – was done using an *ex-ante* (Scholten, 2007,

p. 271) conceptual framework. The conceptual framework was based on Wittrock's concepts of primacy of the domain and logics of the domains. However, the intent was not to 'dress' reality with the two concepts. The empirical evidence was of utter importance and it helped increase the accuracy of the findings on the role of expert groups.

The analysis proceeded in several steps. First, the nature (convergent or divergent) of the logics of the domains of expert groups and DG RTD was examined by looking at indications such as: close, mutual relations between the two domains (as an indication of convergence); indirect, distant relations (as an indication of divergence). The second step was to explore the cases of scientific (expert groups) primacy and policy (DG RTD) primacy. This was done with the support of a set of indications based on: goals (who set the objectives, mandate and tasks?); DG RTD decision of use or non-use of the reports of expert groups; influence (short-term and long-term) of the reports on shaping the ERA policy dimensions and overall vision. The final step was to link the nature of the logics of the domains of expert groups and DG RTD with the respective type of primacy; as a result, various configurations (technocratic, policy-learning, engineering etc) of the interaction between expert groups and DG RTD were obtained. These configurations were explained and the role of expert group revealed.

REFERENCES

Albaeck, E. (1996), *Why all this evaluation? Theoretical notes and empirical observations on the functions and growth of evaluation, with Denmark as an illustration case*, Canadian Journal of Program Evaluation; 11:1-34.

Almeida, C./Bascolo, E. (2006), *Use of research results in policy decision-making, formulation, and implementation*, Cad. Saúde Pública, Rio de Janeiro, 22 Sup:S7-S33

ALTER-EU (Alliance for Lobbying Transparency and Ethics Regulation in the European Union): 'Secrecy and corporate dominance – a study on the composition and transparency of European Commission Expert Groups', March 2008, archived at http://www.alter-eu.org/en/system/files/publications/expertgroupsreport.pdf

André, M., (2006), *L'Espace européen de la recherche: histoire d'une idée*, Contribution au numéro de la *Revue d'histoire de l'intégration européenne* sur le thème de la cooperation scientifique et technique européenne

Banthien, H. et al. (2003), *Governance of the European Research Area: The Role of Civil Society*, Conference Proceedings, Brussels, 20 October 2003, pp. 47–48.

Barker, A. / Peters, B.G., (1993), *Science Policy and Government*, in Barker, A. / Peters, G.B. (eds.), The politics of expert advice. Creating, using and manipulating scientific knowledge for public policy, University of Pittsburgh Press, 1993

Baumgartner, F. /Jones, B., (1993), *Agendas and instability in American politics*, Chicago, University of Chicago Press

Benz, A. (2007), *Governance in connected arenas – political science analysis of coordination and control in complex rule systems*, in Jansen, D. (ed.), *New forms of governance in research organizations. Disciplinary approaches, interfaces and integration*, Springer, 2007

Bowen, S. /Zwi, A.B. (2005), *Pathways to "evidence-informed" policy and practice: a framework for action.* PLoS Medicine; 2:600-5

Braun, D., (2006), *Governing the research policy sector: the role of sectoral and global governance paradigms*, paper presented at the Workshop on 'The Comparative Dynamics of Problem Framing: How Science and Power Speak to Each Other', ECPR Joint Sessions April 25-30, 2006, Nicosia, Cyprus

Brown L. (1991), *Knowledge and power: health services research as a political resource*. In: Ginzberg E. (ed.) Health services research: key to health policy. Cambridge: Harvard University Press; 1991. p. 20-45.

Bruijn, J.A./E.F ten Heuvelhof ,., (1999), *Scientific expertise in complex decision-making processes*, in Science and Public Policy, 26:3, pp.179-184

Caracostas, P., (2003) in Edler, J et. al. (eds.), *Changing Governance of Research and Technology Policy: the European Research Area*, Edward Elgar Publishing

Caswill, C., (2003) in Edler, J et. al. (eds.), *Changing Governance of Research and Technology Policy: the European Research Area*, Edward Elgar Publishing

Classification of FPs Instruments, archived at ftp://ftp.cordis.europa.eu/pub/fp6/docs/synoptic_instruments.pdf

Colebatch, H.K., (2006), *Policy, models, and the construction of governing*, in Colebatch, H.K (ed.), The work of policy: an international survey, Lexington Books

Colebatch, H.K. / Radin, B.A., (2006), Mapping the work of policy, in Colebatch, H.K (ed.), The work of policy: an international survey, Lexington Books

COM(2008)317 final, Commission Communication on the promotion of mobility and careers of Europe's researchers

COM (2007)161 final Green Paper. The European Research Area: New Perspectives

COM (2005)118 of 06/04/2005 'Building the ERA of Knowledge for Growth'

COM (2004)9 of 14/01/2004 Europe and Basic Research

COM (2003)226 of 30/04/2003 'Investing in Research: an Action Plan for Europe'

COM (2002)499 of 11/09/2002 'More Research for Europe – Towards 3% of GDP'

COM (2002)565 of 16/10/2002, 'The European Research Area: Providing New Momentum'

COM (2002)713 final, Communication from the Commission on the collection and use of expertise by the Commission: principles and guidelines

COM (2001)346 of 25/06/2001, 'The International Dimension of the European Research Area'

COM (2001)331 of 20/06/2001 'A Mobility Strategy for the European Research Area'

COM (2000)6 final of 18/01/2000, Towards a European Research Area

Commentary from the Commission on the contributions received during the consultations on the 2000 ERA Communication, archived at http://ec.europa.eu/research/area/area-comments3.pdf

Competitiveness Council Conclusions on the launch of the "Ljubljana Process" - towards full realisation of the ERA, Brussels, May 16th 2008

CORDIS news on ERA, 14.06.2007, archived at http://cordis.europa.eu/fetch?CALLER=EN_NEWS_FP7&ACTION=D&DOC=67&CAT=NEWS&QUERY=1189778733803&RCN=27848

Creating an innovative Europe, report of the independent expert group on R&D and innovation appointed following the Hampton Court Summit and chaired by Mr. Esko Aho, January 2006, archived at http://ec.europa.eu/invest-in-research/pdf/download_en/aho_report.pdf

CREST Report on the application of the Open Method of Coordination in favour of the Barcelona research investment objective, October 2004, archived at www.europa.eu/invest-in-**research**/pdf/download_en/final_**crest_report**_march2006.pdf

Cross, A. (2003), *Drawing up guidelines for the collection and use of expert advice: the experience of the European Commission*, in Science and Public Policy, 30:3, pp.189-192

Dunn, W.N. (2004), *Public policy analysis*, Pearson Prentice Hall

EC, European Commission (2001a), "Report of the working group *'Democratizing expertise and establishing scientific reference systems'* (Group 1b)", R. Gerold, pilot; A. Liberatore, rapporteur (White Paper on Governance, Work Area 1 - Broadening and enriching the public debate on European matters), archived at http://www.europa.eu.int/comm/governance/areas/group2/report_en.pdf

EC, European Commission (2001b), "White Paper on European Governance", archived at http://www.europa.eu.int/comm/governance/white_paper/index_en.htm

Edler, J. /Joly, P.-B. /Kuhlmann, S. /Nedeva, M. /Propp, T. /Rip, A.; Ruhland, S. / Thomas, D. (2006), Understanding *"Fora of Strategic Intelligence for Research and Innovation"*. The PRIME Forum Research Project, Final Report, April 2006, archived at http://www.isi.fraunhofer.de/p/Downloads/PRIME_FORUM_Final_Reportv2.pdf

Eisenhardt, K.M. (1989), *Building theory from case study research*, in The Academy of Management Review, 14(4), p.535

ERA-NET Review Report, December 2006, archived at www.cordis.europa.eu/pub/coordination/docs/era_net_**review_report**_dec**2006**_en.pdf

ERA-NET leaflet, June 2003, archived at ftp://ftp.cordis.europa.eu/pub/coordination/docs/era-net_leaflet1103_en.pdf

Estabrooks, C.A./Wallin, L./Milner, M. (2004), *Measuring knowledge utilization in health care*, presented at the Conference "Evidence-Based Nursing: Strategies for Improving Practice", Dublin, Ireland

EUREKA Position Paper on the ERA Green Paper, 2007, archived at http://www.eureka.be/files/:3669931

European Science Foundation (ESF) & European Heads of Research Councils (EUROHORCS): Joint report on the Green Paper on the European Research Area – New Perspectives COM (2007)161 final, archived at, http://www.esf.org/ext-ceo-news-singleview/article/a-comprehensive-era-needs-full-involvement-of-non-governmental-stakeholders-esf-eurohorcs-commen.html; and http://cordis.europa.eu/fetch?CALLER=NEWS_ERA&ACTION=D&RCN=28308&DOC=1&CAT=NEWS&QUERY=4

European Universities: enhancing Europe's research base, report by the Forum on University-based research, European Commission, May 2005

European Technology Platforms, Highlights, 2007, archived at http://cordis.europa.eu/technology-platforms/home_en.html

Final report of the ERA Expert Group "Realizing a single labour market for researchers", European Commission, February 2008

Final report of the ERA Expert Group "Knowledge sharing in the ERA", European Commission, January 2008

Final report of the ERA Expert Group "Optimizing research programmes and priorities", European Commission, February 2008

Final report of the ERA Expert Group "A wide opening to the world: international cooperation in S&T", European Commission, March 2008

Final report of the ERA Expert Group "Challenging Europe's research: Rationales for the European Research Area", European Commission, February 2008

Final report of the ERA Expert Group "Strengthening research institutions with a focus on university-based research", European Commission, February 2008

Final report of the ERA Expert Group "World-class research infrastructures", European Commission, February 2008

Gornitzka, A./ Sverdrup, U., (2007), *Who consults? The use of expert groups in the European Union,* ARENA, University of Oslo

Grix, J. (2004), *The foundations of research*, Palgrave Macmillan

Hanney et al., (2003) *The utilization of health research in policymaking: concepts, examples and methods of assessment*, p.7

Higgins, J. (2004), *Using science to make the best policies in Europe*, presented at the Conference "Science et conscience européennes" (25-27 novembre 2004), Collège de France

Hooghe, L./Marks, G., (2001) *Multi-level governance and European integration*, Rowman & Littlefield Publishers, Inc.

Hoppe, R. (2002), *Rethinking the puzzles of the science-policy nexus: Boundary traffic, boundary work and the mutual transgression between STS and Policy Studies*, paper prepared for the EASST 2002 Conference, 'Responsibility under Uncertainty', York, 31 July– 3August

Hoppe, R. (1999), *Policy analysis, science, and politics: from 'speaking truth to power' to 'making sense together'* in Science and Public Policy, 26:3, pp.201-210

INT/358 – CESE 1440/2007 Opinion of the European Economic and Social Committee on the Green Paper on the European Research Area – New Perspectives COM (2007)161 final, archived at http://ec.europa.eu/research/era/pdf/ces1440-2007_ac_en.pdf

Jasanoff, S. (1990), *The Fifth Branch: Science Advisers as Policymakers*, Harvard UP, Cambridge

Kenkel, M.K. (2005), *Academic experts and national security policy formulation in Brazil, South Africa and Canada*, THÈSE présentée à l'Université de Genève pour obtenir le grade de Docteur en relations internationales (histoire et politique internationales)

Knott, J./Wildavsky, A. (1980), *If dissemination is the solution, what is the problem? Knowledge: Creation, Diffusion, Utilization*; 1:537-78.

Kogan, M./Hanney S., (2000) *Reforming Higher Education*, London, Jessica Kingsley Publishers

Kuhlmann, S. (2003), *Evaluation as a Source of „Strategic Intelligence*, in: Shapira, Ph., Kuhlmann, S. (eds.): Learning from Science and Technology Policy Evaluation: Experiences from the United States and Europe, Edward Elgar Publishing

Kuhlmann, S., (2002), *Governance and intelligence in research and innovation systems*, address delivered upon the acceptance of the office of a Fraunhofer-ISI Professor of 'Innovation Policy Analysis' at Utrecht University, on the 7th of October 2002, published by Universiteit Utrecht, Faculteit Ruimtelijke Wetenschappen

Kuhlmann, S., (2001), *Future governance of innovation policy in Europe – three scenarios,* in Research Policy 30 (2001) 953-976, Elsevier Science B.V.

Landry, R./Amara, N./Lamari, M. (2001), *Climbing the ladder of research utilization*, Sci Commun; 9:171-82

Larsson, T., (2003), *Precooking in the European Union - The World of Expert Groups,*

Rep. Ds 2003:16, Stockholm

Liberatore, A. (2005), *Balancing security and democracy: the politics of biometric identification in the European Union*, EUI Working Paper RSCAS No. 2005/30, European University Institute, Robert Schuman Centre for Advanced Studies

Muldur, U. et al. (2006), *A New Deal for an Effective European Research Policy - The Design and Impacts of the 7th Framework Programme*, Dordrecht: Springer

Pielke, R. A. Jr. (2007), *The Honest Broker; making sense of science in policy and politics*, Cambridge University Press

Positions emerging from a wide variety of other stakeholders on the Commission's Communication "Towards a European Research Area", archived at http://cordis.europa.eu/era/stakeholders.htm

Preface by Commissioner Busquin to the 2000 Communication *Towards a European Research Area* archived at http://ec.europa.eu/research/area/preface_en.html

Princen, S./Rhinard, M., (2006), *Crashing and creeping: agenda-setting dynamics in the European Union*, in Journal of European Public Policy 13(7), pp.1119-1120

Protocol (No 7) on the application of the principles of subsidiarity and proportionality, annexed to the Amsterdam Treaty, archived at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12006E/PRO/30:EN:HTML

Punch, F.K. (2006), *Developing effective research proposals*, Sage Publications

Radaelli, C.M. (1999), *The public policy of the European Union: whither politics of expertise?* in Journal of European Public Policy 6:5 December 1999: 757Ð 74

Radin, B.A. (2000), *Beyond Machiavelli. Policy analysis comes of a*ge, Georgetown University Press

Renn, O. (1995), *Style of using scientific expertise: a comparative framework*, Science and Public Policy, 22:3, pp.147-156

Report of expert group “Material resources and their coordination”, presented at the seminar on the 2000 ERA Communication (03.05.2000), archived at http://ec.europa.eu/research/area/resources.pdf

Report of expert group “Valorizing human resources”, presented at the seminar on the 2000 ERA Communication (03.05.2000), archived at http://ec.europa.eu/research/area/valorising.pdf

Report of expert group "Favourable conditions for research and technological development", presented at the seminar on the 2000 ERA Communication (03.05.2000), archived at http://ec.europa.eu/research/area/conditions.pdf

Report of expert group "Science, ethics and society", presented at the seminar on the 2000 ERA Communication (03.05.2000), archived at http://ec.europa.eu/research/area/ethics.pdf

Report of the European Parliament on Commission Green Paper 'The European Research Area: New Perspectives' SEC (2007) 412 of the Committee on Industry, Research and Energy, archived at http://ec.europa.eu/research/era/pdf/european-parliament_en.pdf

Report of the expert group "Raising EU R&D intensity: Direct Measures", April 2003, archived at http://ec.europa.eu/invest-in-research/pdf/download_en/report_directmeasures.pdf

Report of the expert group "Raising EU R&D intensity: Guarantee Mechanisms", April 2003, archived at http://ec.europa.eu/invest-in-research/pdf/download_en/report_guaranteemechanisms.pdf

Report of the expert group on 'Strategic use and adaptation of Intellectual Property Rights systems in information and communications technologies-based research', European Commission, 2003

Rich, A., (2004), *Think tanks, public policy and the politics of expertise*, Cambridge University Press

Richardson, J., (ed.) (2006) *European Union: power and policymaking*, Routledge

Rutgers, M.R./Mentzel, M.A., (1999), *Scientific expertise and public policy: resolving paradoxes?* in Science and Public Policy, 26:3, pp.146-150

SEC (2007) 412/2 Commission Staff Working Document accompanying the Green Paper *'The European Research Area: New Perspectives'*

Seminar on the 2000 ERA Communication organized by the Commission on the 3rd of May 2000, in Brussels, archived at http://ec.europa.eu/research/area/seminar.html

Scholten, P., (2007), *Constructing immigrant policies. Research-policy relations and immigrant integration in the Netherlands (1970-2004)*, PhD dissertation

Scientific Council of the European Research Council: Report on the issues identified in the Green Paper on the European Research Area – New Perspectives COM (2007)161 final, archived at, http://erc.europa.eu/pdf/scc_reflections_era_greenpaper_310807_erc_format_fck2_en.pdf

Statement from Commissioner Busquin on the contributions to ERA debate, archived at http://ec.europa.eu/research/area/comments3.html

Stone, D. (2002), *Policy paradox: the art of political decision making*, W.W. Norton and Company

Timmermans, A./Scholten, P. (2006), *The political flow of wisdom: science institutions as policy venues in the Netherlands*, in Journal of European Public Policy 13(7), pp.1106-1107

The debate on the 2000 ERA Communication, archived at http://cordis.europa.eu/era/debate.htm

The European Research Area: an internal knowledge market, European Commission, 2002

The Seventh Framework Programme Brochure, archived at http://ec.europa.eu/research/fp7/pdf/fp7-brochure_en.pdf

Third Status Report on European Technology Platforms, March 2007, (the report was compiled by a Commission Inter-Service Group on ETPs), archived at ftp://ftp.cordis.europa.eu/pub/technology-platforms/docs/etp3rdreport_en.pdf

'Towards a European Research Area' Contributions to the debate and commentary from the Commission organized according to the action lines indicated in the Communication, archived at http://ec.europa.eu/research/area/area-comments3.pdf

Trostle et. al. (1999), *How do researchers influence decision-makers? Case studies of Mexican policies.* Health Policy Plan; 14:103-14.

Typifying scientific advisory structures and scientific advice production methodologies (TSAS), Final Report prepared for Directorate-General Research by Steven Glynn, Paul Cunningham and Kieron Flanagan (PREST, University of Manchester), December 2003, archived at http://ec.europa.eu/research/science-society/pdf/advice_final_report_annexes_en.pdf

Yanow, D. (2000), *Conducting interpretative policy analysis.* Qualitative Research Methods volume 47, Sage Publications

Yin, R.K. (2003), *Case study research. Design and methods*, Applied Social Research Methods Series volume 5, Sage Publications

von Walden L.D (2001), *HIV/AIDS in Sweden and the United Kingdom: Policy Networks 1982–1992*, Stockholm, Department of Political Science, University of Stockholm

Walt, G./Gilson, L. (1994), *Reforming the health sector in developing countries: the central role of policy analysis*. Health Policy Plan 1994; 9:353-70.

Weingart, P., (1999), *Scientific expertise and political accountability: paradoxes of science in politics*, in Science and Public Policy, 26:3, pp.151-161

Weingart, P. et al. (1999), *Climate Coalitions: The Science and Politics of Climate Change*, in Minerva Journal, 37:2, Kluwer Academic Publishers

Weiss, C. H. (ed.) (1977), *Using Social Research in Public Policy Making*, Lexington, MA: Lexington Books

Weiss, C.H. (1979), *The many meanings of research utilization*, Public Adm Rev; 39:429-31

Wittrock, B., *Social Knowledge and public policy: eight models of interaction*, in Wagner .P., (1991), Policy Sciences at the crossroads, pp. 337-339

ANNEX

Table 1: Overview of expert groups in the context of the ERA Green Paper

Expert Group	Composition and background			Overall objective	Overall mandate and tasks
	Number of members	Percentage of members involved in at least one other (previous and/or current) EG set up by RTD	Background of members		
Realizing a single labour market for researchers	18[146]	80%[147]	Academia (80-90%)[148] The rest: industry, SMEs, national administration of MS	Identify and define possible measures and actions concerning the relevant ERA dimension (researchers), taking into account existing expertise, available evidence and the major elements stemming from the debate launched by the Green Paper[149]	Task 1: Identify key existing obstacles and provide real 'stories' to illustrate the many serious difficulties faced by researchers across Europe Task 2: Formulate realistic policy options which, both in the near- and long-term, may stimulate the establishment of an attractive environment for creative and innovative researchers[150]

[146] Annex 1 to the Final report of the ERA Expert Group "Realizing a single labour market for researchers", February 2008, p. 73

[147] The preliminary analysis of the CVs (available on the Internet) of the EG members showed that 6 out of 18 had previous and/or current involvement in at least one other EG set up by RTD. The final result (80%) was obtained via an interview with DG RTD policy officer responsible for the expert group; interview taken in Brussels, SDME, April 15th 2008.

[148] Interview with DG RTD policy officer responsible for the expert group; interview taken in Brussels, SDME, April 15th 2008

[149] Final report of the ERA Expert Group "Realizing a single labour market for researchers", February 2008, p. 4

[150] Final report of the ERA Expert Group "Realizing a single labour market for researchers", February 2008, p. 5

Expert Group	Composition and background			Overall objective	Overall mandate and tasks
	Number of members	Percentage of members involved in at least one other (previous and/or current) EG set up by RTD	Background of members		
World-class research infrastructures	8[151]	100%[152]	Academia (50%)[153] The rest: industry, national administration of MS	Identify and define possible measures and actions concerning the relevant ERA dimension (world-class research infrastructures), taking into account existing expertise, available evidence and the major elements stemming from the debate launched by the Green Paper[154]	Task 1: Provide an overview of recent initiatives, current challenges and existing trends regarding research infrastructures Task 2: Analyze the issues identified in the Green Paper regarding research infrastructures (taking effective decisions on pan-European research infrastructures and their funding; development of a European legal framework for pan-European research infrastructures, including electronic infrastructures; principles for the management of, and access to, infrastructures of European interest; longer-term continuous improvement of research infrastructures; global forum on research infrastructures) and propose a number of policy options, with their impact analysis, to address these issues. Task 3: Draw upon relevant previous studies and undertake, in particular, the analysis of the results of the public consultation questionnaire launched in the context of the Green Paper[155]

[151] Annex 2 to the Final report of the ERA Expert Group "World-class research infrastructures", February 2008, p. 42

[152] The preliminary analysis of the CVs (available on the Internet) of the EG members revealed that 4 out of 8 had previous and/or current involvement in at least one other EG set up by RTD. The final result (100%) was obtained via an interview with one of DG RTD policy officers responsible for the expert group; interview taken in Brussels, SDME, April 10th 2008.

[153] Interview with one of DG RTD policy officers responsible for the expert group; interview taken in Brussels, SDME, April 10th 2008

Expert Group	Composition and background			Overall objective	Overall mandate and tasks
	Number of members	Percentage of members involved in at least one other (previous and/or current) EG set up by RTD	Background of members		
Strengthening research institutions with a focus on university-based research	12[156]	~70%[157]	Academia (100%)[158]	Identify and define possible measures and actions concerning the relevant ERA dimension (Strengthening research institutions with a focus on university-based research), taking into account existing expertise, available evidence and the major elements stemming from the debate launched by the Green Paper[159]	Task 1: Review and assess the current situation regarding strengthening research institutions with a focus on university-based research, providing an overview of recent initiatives, current challenges and existing trends Task 2: Identify issues at stake which may require new policy initiatives Task 3: Identify and develop a number of policy options to address these issues, as well as evidence justifying the need for such measures Task 4: Assess the various policy options and their potential impact[160]
Knowledge sharing in	11[161]	90%[162]	Public Research	Identify and define possible measures	Task 1: Collect, review, collate and structure the

[154] Terms of Reference for the ERA Expert Group "World-class research infrastructures", p. 2
[155] Terms of Reference for the ERA Expert Group "World-class research infrastructures", pp. 5-6
[156] Annex 1 to the Final report of the ERA Expert Group "Strengthening research institutions with a focus on university-based research", February 2008, p. 25
[157] The analysis of the CVs (available on the Internet) of the EG members revealed that ~70% had previous and/or current involvement in at least one other EG set up by RTD.
[158] Interview with one of DG RTD policy officers responsible for the expert group; interview taken in Brussels, SDME, April 7th 2008
[159] Terms of Reference for the ERA Expert Group "Strengthening research institutions with a focus on university-based research", p. 2
[160] Terms of Reference for the ERA Expert Group "Strengthening research institutions with a focus on university-based research", p. 6
[161] Interview with DG RTD responsible for the expert group; interview taken in Brussels, SDME, April 11th 2008
[162] The preliminary analysis of the CVs (available on the Internet) of the EG members revealed that 4 out of 11 had previous and/or current involvement in at least one other EG set up by RTD. The final result (90%) was obtained via an interview with one of the members of the expert group; interview taken in Brussels, SDME, April 15th 2008.

Expert Group	Composition and background			Overall objective	Overall mandate and tasks
	Number of members	Percentage of members involved in at least one other (previous and/or current) EG set up by RTD	Background of members		
the ERA			Organizations (~45%)[163] The rest: industry, national administration of MS	and actions concerning the relevant ERA dimension (Knowledge sharing in the ERA), taking into account existing expertise, available evidence and the major elements stemming from the debate launched by the Green Paper[164]	existing evidence on the main factors/variables affecting knowledge sharing across the EU Task 2: Develop a set of differentiated and well-articulated strategic orientations and hence policy objectives: in which directions should the European knowledge sharing systems (regulatory frameworks, support mechanisms, etc.) be encouraged to evolve in order to maximize effectiveness, efficiency, attractiveness and competitiveness? Task 3: Suggest broadly-defined policy actions to be potentially integrated in the 2008 ERA Action plan: what type of measures/policies should be developed to guide evolutions in the directions suggested in Task 2, in particular what are the (so far unexploited) potentialities of the European level of governance/coordination which are to be used (allowing thus to address the "cost of non-Europe in the exploitation of research results")? Task 4: Further develop building elements which could be used in constituting an *ex-ante* impact assessment of the 2008 ERA Action plan

[163] Interview with DG RTD policy officer responsible for the expert group; interview taken in Brussels, SDME, April 11th 2008
[164] Final report of the ERA Expert Group "Knowledge sharing in the ERA", January 2008, p. 6
[165] Terms of Reference for the ERA Expert Group "Knowledge sharing in the ERA", pp. 4-5

Expert Group	Composition and background			Overall objective	Overall mandate and tasks
	Number of members	Percentage of members involved in at least one other (previous and/or current) EG set up by RTD	Background of members		
					(i.e. assessment of the impacts of the orientations and policy actions suggested in Tasks 2 and 3)[165]
Optimizing research programmes and priorities	13[166]	~60%[167]	Academia (~46%)[168] The rest: industry, national administration of MS	Identify and define possible measures and actions concerning the relevant ERA dimension (Optimizing research programmes and priorities), taking into account existing expertise, available evidence and the major elements stemming from the debate launched by the Green Paper[169]	Task 1: Review and assess the current situation regarding the programming and the structure of research programmes in the EU, providing an overview of recent initiatives, current challenges and existing trends Task 2: Identify issues at stake which may require new policy initiatives Task 3: Identify and develop a number of policy options to address these issues, as well as evidence justifying the need for such measures Task 4: Further develop building elements which could be used in constituting an *ex ante* impact assessment of actions planned for the follow up of the Green Paper process Task 5: Develop the concepts and methodological approaches for further in-depth

[166] Final report of the ERA Expert Group "Optimizing research programmes and priorities", February 2008, p. 2
[167] The analysis of the CVs (available on the Internet) of the EG members revealed that ~60% had previous and/or current involvement in at least one other EG set up by RTD.
[168] Final report of the ERA Expert Group "Optimizing research programmes and priorities", February 2008, p. 1
[169] Final report of the ERA Expert Group "Optimizing research programmes and priorities", February 2008, p. 1

Expert Group	Composition and background			Overall objective	Overall mandate and tasks
	Number of members	Percentage of members involved in at least one other (previous and/or current) EG set up by RTD	Background of members		
					studies allowing notably to address unresolved issues encountered in the previous tasks[170]
A wide opening to the world: international cooperation in S&T	12[171]	60%[172]	Academia (~40%)[173] The rest: industry, national administration of MS	Assist relevant Commission services in the design of a broader International Scientific Cooperation Strategy[174]	Task 1: Review and assess the current situation regarding international S&T co-operation, providing an overview of recent initiatives, current challenges and existing trends Task 2: Identify issues at stake which may require new policy initiatives on IC, in particular in relation to the European Neighbourhood Policy Task 3: Identify and develop policy options and instruments to address these issues, as well as evidence justifying the need for such measures Task 4: Assess the various policy options and their potential impact, including the S&T agreements Task 5: Analyze international S&T co-operation issues arising from the ERA on-line consultation results

[170] Final report of the ERA Expert Group "Optimizing research programmes and priorities", February 2008, pp. 2-3
[171] Final report of the ERA Expert Group "A wide opening to the world: international cooperation in S&T", March 2008, p. 2
[172] The preliminary analysis of the CVs (available on the Internet) of the EG members revealed that 5 out of 12 had previous and/or current involvement in at least one other EG set up by RTD. The final result (60%) was obtained via an interview with DG RTD policy officer responsible for the expert group; interview taken in Brussels, SDME, April 21st 2008
[173] Interview with DG RTD policy officer responsible for the expert group; interview taken in Brussels, SDME, April 21st 2008
[174] Terms of Reference for the ERA Expert Group "A wide opening to the world: international cooperation in S&T", p. 2

Expert Group	Composition and background			Overall objective	Overall mandate and tasks
	Number of members	Percentage of members involved in at least one other (previous and/or current) EG set up by RTD	Background of members		
					Task 6: Take account of debate and major outcomes arising from three workshops on international S&T cooperation (held in September/October 2007 in Brussels) Task 7: Oversight and assist the impact assessment activities for the international S&T co-operation section/communication resulting from the ERA Green paper consultations Task 8: Play a leading role in the Stakeholders' Conference Task 9: Summarize and integrate results from the various consultation activities and make final recommendations[175]
ERA Rationales	11[176]	90%[177]	Academia (90%)[178] The rest: industry, national administration of MS	Develop and expand rationales for ERA and refine or suggest a reformulation of the ERA vision proposed in the Green Paper, based on an analysis of the main issues and factors affecting the efficiency, effectiveness and	Task 1: Collect, review, collate and structure the existing evidence on the main factors/variables affecting the efficiency, the effectiveness and the attractiveness of the European research fabric; and develop an integrated conceptual framework allowing a better understanding of the roles and

[175] Terms of Reference for the ERA Expert Group "A wide opening to the world: international cooperation in S&T", p. 5
[176] Final report of the ERA Expert Group "Challenging Europe's research: Rationales for the European Research Area", February 2008, p. 49
[177]The preliminary analysis of the CVs (available on the Internet) of the EG members showed that 5 out of 11 had previous and/or current involvement in at least one other EG set up by RTD. The final result (90%) was obtained based on an interview with DG RTD policy officer responsible for the expert group; interview taken in Brussels, SDME, April 4th 2008 and based on the replies to a questionnaire sent to the chair of the expert group; replies received April 21st 2008
[178]Interview with DG RTD policy officer responsible for the expert group; interview taken in Brussels, SDME, April 4th 2008

Expert Group	Composition and background			Overall objective	Overall mandate and tasks
	Number of members	Percentage of members involved in at least one other (previous and/or current) EG set up by RTD	Background of members		
				attractiveness of the European research system[179]	impacts of these variables Task 2: Develop on this basis a set of differentiated and well-articulated rationales for ERA with corresponding strategic orientations for its development and hence policy objectives Task 3: Suggest broadly-defined policy actions to be potentially integrated in the 2008 ERA Action plan Task 4: Based notably on the evidence collected in Task 1, further develop building elements which could be used in constituting an *ex ante* impact assessment of the 2008 ERA Action plan Task 5: Develop the concepts and methodological approaches for further in-depth studies allowing notably to address unresolved issues encountered in the previous tasks[180]
Follow-up of the revised Lisbon	8[181]	~75% [182]	Academia (~62%)[183]	Provide assistance to the Commission in analyzing the research aspects of the	-

[179] Final report of the ERA Expert Group "Challenging Europe's research: Rationales for the European Research Area", February 2008, p. 3
[180] Terms of Reference for the ERA Expert Group "Rationales for the European Research Area", p.5
[181] Interim policy options paper of the Expert Group for the follow-up of the revised Lisbon Strategy: Governance issues and links with the Lisbon strategy (presented at the High-level Conference on 'The Future of Science and Technology in Europe' , Lisbon, 8-10 October 2007), p. 23
[182] The analysis of the CVs (available on the Internet) of the EG members revealed that ~75% had previous and/or current involvement in at least one other EG set up by RTD
[183] Governance issues and links with the Lisbon Strategy, presentation by the chair of the Expert Group at the High-level Conference on 'The Future of Science and Technology in Europe' , Lisbon, 8-10 October 2007

Expert Group	Composition and background			Overall objective	Overall mandate and tasks
	Number of members	Percentage of members involved in at least one other (previous and/or current) EG set up by RTD	Background of members		
Strategy "Open research and innovation policies for Europe - A leap forward!"			The rest: industry	revised Lisbon strategy[184]	
Science in society (not a group *per se*; it was a presentation given by James Wilsdon from Demos think tank, UK)	-	-		-	-

[184] Interim policy options paper of the Expert Group for the follow-up of the revised Lisbon Strategy: Governance issues and links with the Lisbon strategy (presented at the High-level Conference on 'The Future of Science and Technology in Europe' , Lisbon, 8-10 October 2007), p. 23