THE IMPACT OF FORESIGHT ON POLICY-MAKING: INSIGHTS FROM THE FORLEARN MUTUAL LEARNING PROCESS

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Abstract

The paper presents recent insights from the ongoing FORLEARN project[1], which aims to develop Foresight theory and practise by supporting the sharing of experience ("mutual learning") in Europe. Six functions of Foresight for policy-making are elaborated on:

1. **Informing policy**: generating insights regarding the dynamics of change, future challenges and options, along with new ideas, and transmitting them to policy-makers as an input to policy conceptualisation and design.

2. **Facilitating policy implementation**: enhancing the capacity for change within a given policy field by building a common awareness of the current situation and future challenges, as well as new networks and visions amongst stakeholders.

3. **Embedding participation in policy-making**: facilitating the participation of civil society in the policy-making process, thereby improving its transparency and legitimacy.

4. **Supporting policy definition**: jointly translating outcomes from the collective process into specific options for policy definition and implementation.

5. **Reconfiguring the policy system**: in a way that makes it more apt to address long-term challenges.

6. **Symbolic function**: indicating to the public that policy is based on rational information.

The relationship between these functions and the tensions that can arise when a Foresight exercise attempts to address more than one function are discussed. Possible approaches for Foresight practice to better achieve the targeted impact on policy-making are outlined and emerging guidelines for improving Foresight practice are presented.

Keywords: Foresight, FORLEARN, policy-making, impact, mutual learning

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[1] FORLEARN is financed by DG Research C4 of the European Commission and developed by IPTS of the European Commission's Joint Research Centre (http://forlearn.jrc.es/).

1 The impact of Foresight on policy-making: framing the issue

Foresight is usually not considered an academic discipline or sub-discipline on its own but rather a "community of practice" formed by individuals with a variety of academic backgrounds (e.g., science, technology, economics, innovation studies sociology, psychology) and experiences. Therefore it is defined more by the practice and know-how than by the academic background.

Within the landscape of strategic intelligence and policy-advising, Foresight also coexists, collaborates and competes with complementary or alternative approaches such as Evaluation, Impact Assessment, Risk Assessment, Technology Assessment, Technology Forecasting, Strategic Planning, Policy Analysis, Innovation Studies and Futures Studies. As Foresight has become widely used to support decision making at international, national and regional levels since the early 1990s, it appears timely to exploit the wealth of experience from the last decade, to take stock of the developments, the achievements and shortcomings, and to consolidate the know-how.

The topic of Foresight's impact on policy-making emerged from extensive consultations with Foresight practitioners. It is central to the advancement of the field since it addresses the status of Foresight as a strategic policy intelligence instrument (Tübke *et al* 2001). It is reflecting the need of the Foresight community to assess the effectiveness and efficiency of Foresight contribution to policy-making, its position in the policy-making system and the ways of enhancing its impact. It is reckoned that a clear conception of what kind of impact on policy-making is being aimed for is a pre-requisite for a successful Foresight exercise design. The other aim is to be able to convey clear messages on the usefulness and effectiveness of Foresight for policy-making to policy-makers who are, at the end of the day, the clients and sponsors of the majority of Foresight exercises.

2 Background: challenges from policy-advising

Policy-making is a challenging process that takes place under intense pressure and strict constraints. Therefore, a strong effort of willpower and commitment is requested for policy-makers to switch their frame of mind mode from dealing with short-term urgencies into long-term and holistic thinking.

Policy-makers are dealing with increasingly complex, multi-dimensional (S&T, cultural & social, political, economic, environmental) issues that are frequently highly interconnected and interdependent. The uncertainties in every dimension are growing and at the same time the speed of change is accelerating. The growing complexity of the system that a particular policy is trying to affect makes it impossible to steer it directly without facing the risk of unintended consequences.

Plenty of reports and scientific papers are written and transmitted to policy-makers every year. They stem from numerous think-tanks, universities and research institutes. They cover most major issues having some kind of long-term or far-reaching implications, such as health, ageing population, quality of life, environmental challenges, global warming, oil depletion, GMOs, ubiquitous computing, China's growth, competitiveness and so. Therefore, it could be argued that at the first sight information for policy-making purposes are already plentiful and widely available.

However, for policy-makers, the policy advice material they are given is often not directly relevant or directly useable as an input to decision-making. They do not have the time or the

energy to read, understand and synthesise reports which are often long and cumbersome, each approaching the issues from different perspectives and whose quality and reliability may vary. They cannot "internalise" the various points of view and advice which are transmitted to them. The issue is therefore not simply to add up the quantity of information but more to be aware of the relevant information, assimilate it, synthesise it to make it operational.

There has been much research on the reasons why scientific advisors and policy/decision-makers rarely develop the types of relationships and information flows necessary for a full integration of scientific knowledge into the policy/decision-making process (Jacobs 2002). Some conditions for such a successful integration would include:

- Relevance: Are the scientists asking and answering the right questions?

- Accessibility of outputs: Are the data and the associated value-added analysis available to policy-makers in an understandable and readily useable form? Are they focused enough on the issues relevant for the policy-making space?

- Acceptability: Are the outputs seen as accurate and trustworthy? Would the policy/decision-maker be able to defend his/her decision on this basis in the context in which s/he is operating?

- Context of policy/decision-making process: Are the outputs useable and timely given the constraints and time scales of policy-making?

In the best cases, Foresight activities will initiate changes in the way decisions are made and policies are designed and this is the main topic of this paper (see § 4). However, if we are to assume, for the time being, that the context of policy-making is an external factor that cannot really be influenced, what is a safe assumption in many cases, and that the contribution of Foresight has to be effective within this less-than-perfect context. It might be useful for our understanding to present the situation as a "bottleneck" at the interface between Academia on the one side and the policy-makers on the other (Figure 1). This is the interface between two communities with different cultures, vocabularies, processes, and time scales, thus making the transmission of knowledge difficult.

Figure 1: the challenge of policy-advising
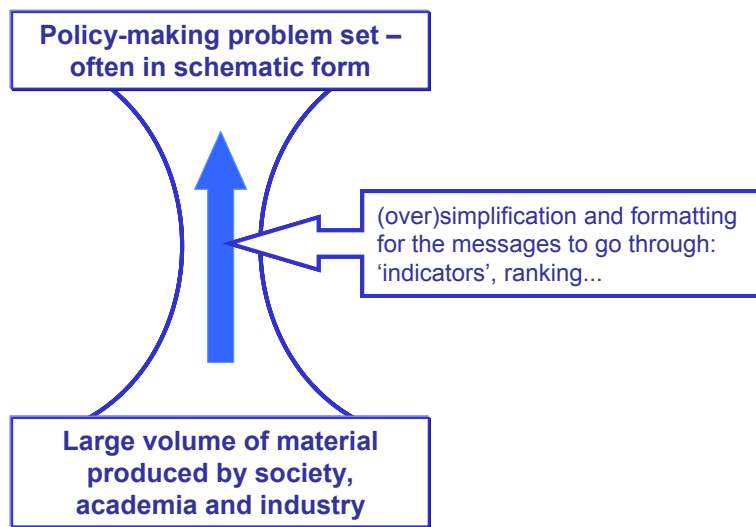
It is not always productive to attempt to "force" the results of Foresight or innovation studies through this bottleneck to policy-makers. The relevant information and messages end up being over-simplified and schematic, thereby undermining their significance for the policy which is to be based on them. For instance, one can question whether the "indicators" or rankings developed on a wide range of subjects such as research, innovation, universities, transparency, still reflect essential underlying phenomena for well grounded policy-making.

In a nutshell, it could be said that advising policy is all about transmitting complexity to policy-makers. In our view, the differences between these two communities are fundamental and should be better understood, accepted as such and integrated from the onset into the design of Foresight activities. This means that, ignoring for the moment the other stakeholders who are also fundamental to the Foresight exercise, the "special interface" should be the Foresight exercise itself.

3   The FORLEARN Mutual Learning process

The FORLEARN project is one of the central activities of the **European S&T Foresight Knowledge Sharing Platform** (KSP)[2] launched and financed by the European Commission's Directorate General (DG) Research during the Sixth Framework Programme. The KSP aims to support Foresight programmes, initiatives and organisations in close co-operation with all the relevant actors in Europe, strengthen the interconnections between them, and, when necessary, offer guidance on common issues, at inter-regional, trans-national or European level. FORLEARN is being run by the Institute for Prospective Technological Studies (IPTS) of the European Commission's Joint Research Centre (JRC). It aims to improve Foresight knowledge and practice by fostering the sharing of knowledge and know-how between practitioners, managers, users and other stakeholders of Foresight in Europe ("mutual learning").

The two main modules of FORLEARN are the Online Foresight Guide[3] and the Mutual Learning Workshops. The Online Foresight Guide aims to disseminate existing Foresight knowledge and support newcomers in the field.

The Mutual Learning workshops provide a common space, a "platform" in itself, to reflect, share, consolidate and transfer experiences and lessons on Foresight process, methodologies, and outcomes. As Foresight practitioners originate from various fields, the alignment of vocabulary and the building of common references are particularly important.

A series of four Mutual Learning workshops with a specific focus on the impact of Foresight on policy-making took place between December 2005 and December 2006. Each workshop built on the outputs of the previous ones and, with a specific group of participants, looked at the impact of Foresight on policy-making from a different perspective. The first workshop brought together Foresight practitioners with scholars from neighbouring fields. It laid the groundwork for the relevant issues by revisiting the positioning of strategic intelligence tools in the policy-making process in the light of recent insights from policy research and innovation studies. The second workshop, which was attended by Foresight experts, focused on possible approaches to maximising the impact of Foresight on policy. In the third workshop, the relationship between Foresight and policy-making was discussed with policy-makers and from their point of view. In

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[2] http://cordis.europa.eu/foresight/platform.htm

[3] http://forlearn.jrc.es/guide/0_home/index.htm

the fourth and last workshop, the consolidated results were presented to a larger audience from the field of strategic policy intelligence so as to refine and validate the outcomes.

The rest of this paper presents insights from this series. The main functions of Foresight in the context of policy-making are revisited and the tensions between these functions discussed. The concept of "adaptive Foresight", which subdivides the Foresight exercise into specific phases, each focusing on a specific function, is examined as a way to address some of these tensions. On the basis of this analytical discussion, the paper then explores the possibilities for translating these theoretical considerations into guidelines to improve Foresight activities and enhance their impact.

4 Six functions of Foresight in relation to policy-making

The initial framework of contributions that Foresight can make to policy-making was refined through the Mutual Learning process. In this section six functions are presented. These were originally identified from the literature but their definitions and labelling have been made more precise over the course of the Mutual Learning process. The first two functions "informing policy" and "facilitating policy implementation" are considered to be the core functions in this context and are therefore discussed in more detail.

4.1 Informing policy

"Informing policy" refers to the supply of anticipatory knowledge or "intelligence" such as the dynamics of change, future challenges, risks and opportunities, strengths and weaknesses of the current system for addressing these, visions for change and possible options. The aim is to improve the knowledge base for thinking about and designing policy. Furthermore the provision of a wide range of new ideas stemming from a creative process which activates a diverse range of knowledge sources is an important aspect of informing policy.

"Informing policy" has long been considered the core function of Foresight and its outcomes are traditionally synthesised into formal products such as reports. These products may comprise direct policy recommendations such as priority lists and action plans but also information contributing to policy design in a more indirect way, such as scenarios of possible future developments, roadmaps towards different possible futures, lists of critical technologies or visions of desirable futures.

4.2 Facilitating policy implementation

It is well known that the dynamics of change in the socio-economic framework are becoming increasingly complex. Of particular relevance are the changing modes of knowledge generation and innovation, such as the increasing distribution of knowledge production and the growing diversity of knowledge sources. In parallel, emerging new modes of governance, such as that of multi-level governance driven by various political challenges including European integration (Kuhlmann 2001) and in general the broadening of the decision-making processes (Smits 2001), are making the picture even more complex. As a consequence the traditional linear model of policy-making as a process incorporating successive phases such as conceptualisation, implementation, evaluation and then modification to start a new cycle, is no longer adequate.

Policy and strategy development are increasingly being interpreted as a continuous reflexive learning process. In this context, policy researchers underline the need for "systemic instruments" (Smits and Kuhlmann 2004) to complement traditional steering approaches.

Systemic instruments focus on the promotion of linkages, communication and co-operation between societal actors within a specific arena of change or transition. They provide platforms for learning and experimenting and stimulate the emergence of common visions. Furthermore they can serve to establish a specific "infrastructure" of "distributed intelligence" (Kuhlmann 2001) that can be accessed by various stakeholder groups, among them policy-makers, according to their needs. The concept of systemic instruments has originally been developed in an innovation policy context where the creation of linkages and networks becomes an objective of its own. Instead of targeting specific elements of the system, systemic instruments focus on the overall system capability by fostering interactions between science and technology actors, users and producers of new products and services (Smits 2001) and improving the quality of linkages between the elements and the innovation process. Thus, the overall co-ordination and the flow of knowledge throughout the innovation system are improved (Webster 2002); the band of technological solutions or possibilities that each economic actor is aware of is enlarged (Smith 2000) and the capacity of the system for self-organisation is enhanced. However, this argument is clearly valid for many other policy fields such as environmental policy (EC 2003, Kerkhof and Wieczorek 2005).

Besides the traditional "informing policy" which is achieved by supplying specific information as a support to policy design, there is a clear potential for Foresight to function as a systemic policy instrument through the process of the exercise itself (see also figure 2) whose usefulness for "wiring up the system" has long been highlighted (Martin and Johnston 1999) and is now widely recognised among researchers and practitioners. The Foresight process contributes to the transformation of the system under consideration (e.g. a territory, an industrial sector, a national research and innovation system), or the "arena", by creating linkages, interfaces, knowledge flows and networks between people or entities that may lack opportunities to exchange and may even have opposite interests. Furthermore, they can develop, through the collective reasoning about the future, a shared understanding of the current situation, of the issues at stake and the future challenges and may even come to share visions on desirable futures. The participants in the process will develop more "future-oriented" attitudes, will make better informed choices and will be ready to better accept and encourage changes in the right direction. Therefore, Foresight can enhance the responsiveness of the system to specific policies. As, from the policy-maker's perspective, the main benefit is a more effective and smoother implementation of policies, we have termed this function "facilitating policy implementation".

4.3   Embedding participation in policy-making

In a context where traditional expert-based risk management practices are being questioned and where the demand for accountability over government spending is growing (Martin and Johnston 1999), Foresight can contribute by embedding the participation of civil society within the policy-making process. It can improve governance in the multi-layered and multi-actor policy arena by increasing the transparency and legitimacy of the policy-making process, and thus the acceptance of policy (Barré 2001). This function is closely related to the previous one as the involvement of a diversity of stakeholders in intelligence gathering and vision building also improves the legitimacy of the policy-making process.

4.4 Supporting policy definition

It is often felt that anticipatory intelligence is not easily translated into options for policy definition, all the more so if it originates from the twists and turns of a collective process. "Informing policy" and "facilitating policy implementation" may not be enough to ensure an effective contribution to policy definition and implementation. Policy-makers might for instance be reluctant to communicate their hidden agenda and to spell out their needs to participants who may have little inkling of what the policy-making process actually consists of.

Therefore, "supporting policy definition" or "strategic counselling" has to be considered explicitly as an additional function. This implies that Foresight practice may extend its field of intervention "downstream" (see § 6.5). This translation of anticipatory intelligence into options for policy definition has to take place jointly with the policy-makers in charge of the specific policy field.

However, it might be necessary to complement Foresight with approaches aiming to steer the process of change towards specific objectives such as "transition management" (Kerkhof & Wieczorek 2005, Kemp & Rotmans 2004), if it is developing into an instrument for assisting policy conceptualisation as well as implementation.

4.5 Reconfiguring the policy system

Foresight exercises come often to bring to light the inadequacy of the current policy system to address these major challenges that society is facing (see § 2 Background: challenges from policy-advising):

- They can highlight the inherent contradiction between the long-term nature of the major issues faced by society, on the one hand, and the substantially shorter time horizon of politicians (and of some policy-makers), on the other;
- They can also draw attention to the inherent tension between the departmentalised or 'compartmentalised' government structures, on the one hand, and the 'multi-dimensionality' of the issues (see § 2) which are cross-cutting the well-established structures, on the other. Concretely, public resources – financial and intellectual ones – should be pulled together to make a real difference in an efficient (co-ordinated) way. Yet, they are allocated to different ministries and other government agencies, and these organisations are not always keen on co-operation – to put it mildly.

Therefore, Foresight exercises may raise the issue that a reconfiguration of the policy system in a way to make it more apt to address the major challenges is needed. In the most favourable cases, this reconfiguration will actually take place. For instance, one can bring to mind the committees set up in the recent years between the Ministry of Education and Research and the Ministry of Industry of various countries to address innovation-related issues, or between the Ministry of Environment and the Ministry of Industry to tackle global warming. Also new linkages can be established with entities outside the policy system itself, such as NGOs, trade-unions or professional organisations.

In this sense, Foresight is supporting reflexivity and learning within complex governance systems to adapt to changing context and challenges. Accordingly policy-making is becoming less steering but more mediating.

4.6 Symbolic function

Finally, under certain political conditions Foresight also performs a symbolic function. By launching a Foresight exercise policy-makers may wish to signal to the public that their decision making is based on rational information[4]. From the Foresight perspective this function poses some problems. It has been argued that the prevalence of the symbolic function of Foresight is likely to hinder any kind of "policy informing" impact (Sanz-Menéndez *et al* 1999). It may also lend support to arguments that Foresight exercises are sometimes undertaken with the sole aim of providing justification for a policy which has already been decided.

However, it is crucial for the Foresight practitioner to be aware of the relevance of the symbolic function from the policy-maker's point of view and to take it into account when designing the exercise.

5 Fulfilling the various functions

A large part of the debate within the mutual learning process has concentrated on the two functions of "informing policy" and "facilitating policy". The following sub-section summarises the recent trend to put greater emphasis on the "facilitating policy implementation" function over the "informing policy". This has led to tensions between these two functions. These tensions are discussed in the second sub-section. In the third sub-section we examine whether dividing a Foresight exercise into specific phases for specific functions might be a way to alleviate some of these tensions.

## 5.1 Shifting emphasis to "facilitating policy implementation"

The two functions of "informing policy" and "facilitating policy implementation" are symbolically represented in Figure 2. While informing policy is directed from the Foresight process towards policy, the "facilitating policy implementation" function affects the arena of actors.

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[4] "*Foresight reports and exercises, as many other information pieces, are also symbols in the overall context of policy-making. To have them, to possess information is a symbol and a representation of their competence for the decision making exercise. Moreover, the stock and quality of information and its use for justifying the decision making process is a way of symbolising or signalling that the process is legitimate, particularly when the decisions taken depart significantly from organisational and institutional habits and routines*" (Sanz-Menéndez *et al* 1999).

Figure 2: "informing policy" and "facilitating policy implementation"
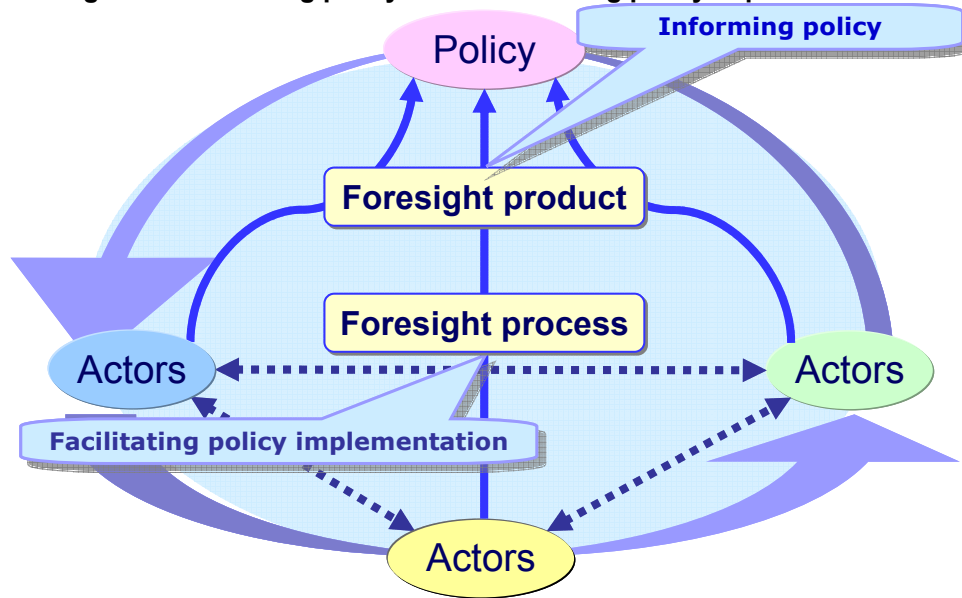
In the 1950s, 60s and 70s, "informing policy" used to be the core function of what was not yet called Foresight, and the most tangible one. At that time, technology forecasting, prospective studies, and more formal expert-based approaches adopted a fairly linear understanding of technological development, on the one hand, and policy-making on the other. They were able to claim a substantial input into the conceptualisation phase of science, technology and innovation policy, through concrete guidelines and policy recommendations such as "research priorities" and action plans. At that time, the "process benefits" from the "facilitating policy implementation" function were taken for granted, or even considered to be of secondary importance.

Since the beginning of the 90s and in many countries, Foresight has increasingly come to be used as a systemic policy instrument supporting policy-making as outlined in section 4.2, particularly in the fields of research, innovation and technology policy, but also in other policy realms. Accordingly, it has undergone a number of conceptual changes. Current academic work on Foresight recognises the complexity and reflexivity of innovation processes and conceptualises policy-making as a continuous reflexive learning process (Weber 2006). It is no longer felt that technological trajectories can be easily forecast nor is it taken for granted that innovation processes can be initiated or influenced in a straightforward way through targeted research funding activities (Salo & Cuhls 2003).

Following these insights researchers and practitioners have increasingly emphasised the role of Foresight as a process-oriented innovation policy instrument. In other words the policy benefit stressed by Foresight practitioners has shifted from the delivery of information on future developments as a basis for priority setting, "informing policy" function, to the mediation of self-organisation among actors of an innovation arena "facilitating policy implementation". This has led to an increasing emphasis from some Foresight practitioners on the relevance of the Foresight process compared to the tangible products of the exercise (Georghiou & Keenan 2005). Reflecting this shift a type of exercise has emerged that is conceptualised as a social learning process more than a primarily analytical endeavour. Different labels were coined such as "Third Generation Foresight" (Georghiou 2001), "Collective process" (Barré 2001) or "Type C Foresight" (Havas 2005).

5.2   Challenges in addressing these functions

From both the practitioners' and policy-makers' point of view, the renewed focus on Foresight as an instrument for "facilitating policy implementation" or "enabling change" is altering the perception of Foresight's contribution to policy-making.

The traditional "informing policy" function often binds together the entire Foresight exercise through the development of the formal products, such as reports and papers, to come up with concrete policy recommendations, like priority lists and action plans. The key actors are motivated to participate in the Foresight exercise by the possibility of directly influencing policy and would not become involved for the sake of networking alone.

The impact of the "facilitating policy implementation" function on policy-making is spread over different phases of the policy-making process and therefore more difficult to trace and pinpoint. This has lead to a kind of unease among some practitioners regarding the actual impact of Foresight and therefore its credibility as a policy support instrument. The credibility and momentum of the Foresight approach can be questioned if there is no tangible influence on policy/decision making. As Barré and Salo (2002) put it: "*a policy aiming at enabling the actors must be a policy that the actors themselves have contributed to define and shape*".

This implies that there is a need for Foresight to function as a systemic policy instrument without undermining its capability to transmit information for the policy definition phase. This may prove to be a major challenge for Foresight design, especially in the case of "process-oriented" Foresight exercises that are designed primarily with the intention of building networks, developing visions or changing mindsets and attitudes. As Weber (2002) has observed "*In many of these cases there has been very limited impact on decision-making, in others this link has been made in a far too mechanistic way*". Therefore special efforts are needed to generate anticipatory intelligence from an exercise that primarily targets the facilitation of policy. One possibility may be to create specific interfaces for translating outcomes from the collective process into policy options (see §6.5 Adding a policy-definition phase).

Other possible tensions arise from the direct participation of civil society in the policy-making process (see § 4.3 Embedding participation in policy-making) and from the possible competition between "deliberative" and "representative" democracies. Taking away some of the decision-making responsibility from parliaments and policy-makers to move it to participatory processes is not necessary innocuous. Foresight needs to be careful that it is embedded in democratic decision making and not allow itself to become a private ground of experts thereby paralleling and even circumventing the democratic representation system (Barré 2001).

## 5.3   Tailoring phases to functions

In the current art there seem therefore to be some tensions between the various orientations of Foresight. This ambivalence is problematic as there is a danger that exercises are started with misguided expectations as to their impact and outcome. Throughout the process Foresight practitioners might struggle with conflicting demands and ultimately exercises might be viewed as a failure although their achievements could actually be of high value for policy.

Within the mutual learning process a common understanding emerged that Foresight can and should address both the basic functions of "informing policy" and "facilitating policy implementation". However, it was stressed that not everything can be achieved simultaneously and with the same approach. It seems crucial that within Foresight design there is a clear understanding about what type of impact is being targeted within each particular Foresight activity. A possible approach suggested by Barré (2001) is to concentrate on specific policy

needs in an exercise. Different types of Foresight exercises could be tailored to serve different functions for policy.

Another approach is to design the Foresight exercise with various successive or parallel phases, each of them specifically fulfilling one or a few specific functions. This relates to the overall concept of "adaptive Foresight" as described in (Weber 2006) or (Eriksson & Weber 2006). This approach is illustrated in Figure 3, which shows different phases of a hypothetical Foresight exercise where the X-axis represents various functions and the Y-axis represents the diversity and level of participation within the exercise. The dotted circle at the bottom symbolises the phases where participation is low, while the dotted upper circle symbolises the open process.

Figure 3: illustration of an exercise subdivided into several phases
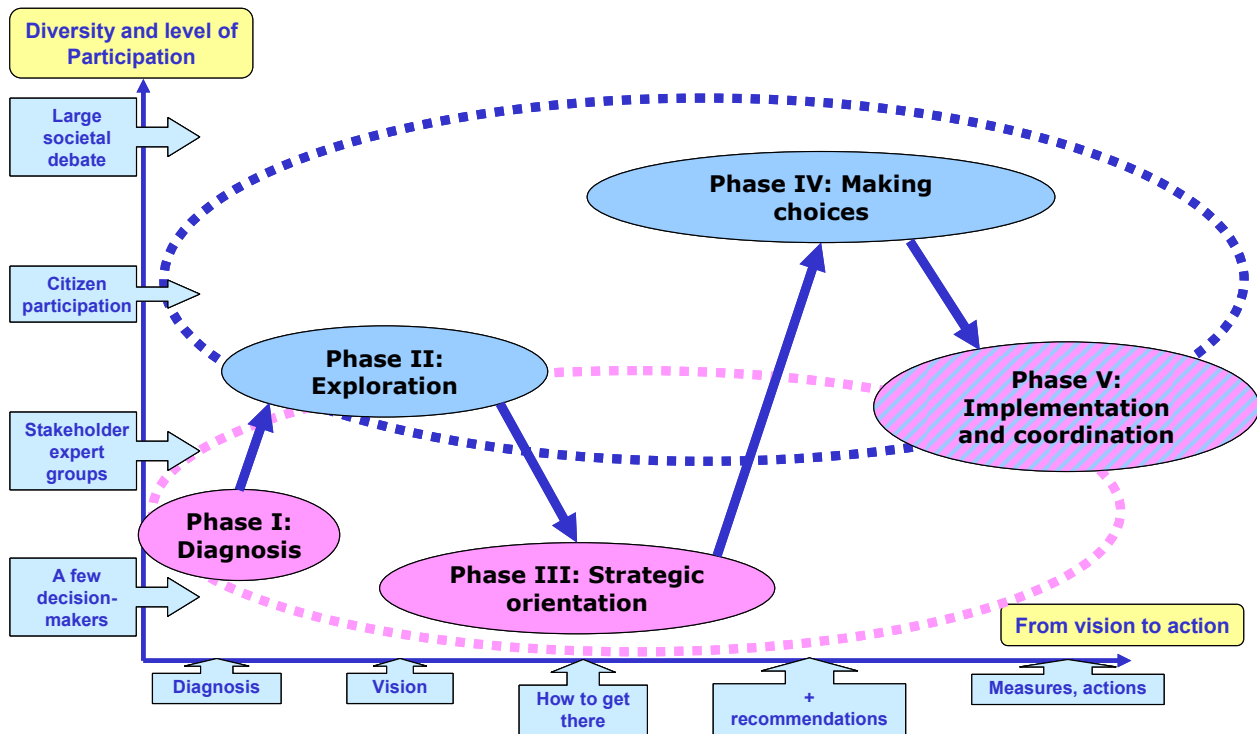
The phases in this example are:

1. A "diagnosis phase" with policy-makers and experts to reflect on the situation of the current system;

2. A fairly-open phase of "exploration" to build scenarios of possible future evolutions of the system with a wider participation of stakeholders;

3. A fairly-secluded phase of "strategic orientation" for policy-makers to discuss possible strategies on the basis of the diagnosis and of the exploration of the future carried out previously. Such a phase can make use of protected spaces (so-called "Hothouses"[5]) where policy-makers can reveal their own hidden agendas "off record". This non-

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[5] Used metaphorically to refer to environment in which growth or development is encouraged (Kunstler 2004).

transparent practice depends highly on the political culture and would for instance not be acceptable in Scandinavian countries.

4. A largely-open phase of public debate such as citizen conferences to "make the fundamental choices" on the basis of a consensus as large as possible.

5. A phase of "implementation and coordination" where the selected options are translated into policy (see § 6.5)

This is just an example and other characteristics of the exercise such as the level of creativity could be mapped in a similar way. In this case a phase of seclusion with no pressure to come up with concrete results could serve the needs of idea generation.

6 Foresight for policy impact - some emerging guidelines

Even within a "tailored" Foresight exercise it is necessary to think about "inroads to policy" from different perspectives in order to achieve a better impact of Foresight on policy-making. In this section, various guidelines for improving Foresight practice and enhancing its impact on policy-making are considered.

6.1 Analysis of the policy context

Foresight outcomes can be taken onboard by policy-makers only if they are fully in step with the policy-making process, in terms of timing, cultural compatibility and usability. Therefore, a thorough analysis of the political context during the design phase of a Foresight exercise is essential. The system in which the exercise is embedded has to be understood as well as the one on which it is supposed to have an impact. The culture of decision-making within ministries/agencies matters for the positioning of Foresight. Decision-making practices are usually context-specific and not codified. They have to be deconstructed in order to "prepare the field". It is very important to position Foresight within the complex process of policy building and to link up with other activities such as ongoing planning that are already in place.

6.2 Shaping within boundaries

The literature often emphasises that Foresight should be closely linked to action and decision making, mainly targeting public policy (FOREN 2001). Foresight exercises are expected not only to provide information for policy but also to develop concrete "policy recommendations" or even to suggest precise policy instruments. Studies without connection to possible actions, "purely analytical studies of possible futures", are strictly speaking not considered as Foresight (Havas 2005). While this action-oriented approach of Foresight was clearly acknowledged in the FORLEARN workshops, it was also suggested that there may be a need to rethink the way Foresight can actually achieve change. It does not usually make sense to aim at affecting the whole socio-economic framework but rather that a bigger effort should be made to analyse what can be shaped within this framework.

To achieve a realistic impact it is crucial to consider how to strike the right balance between shaping the future and adapting to constraints for the target area (e.g. country, region, sector or

thematic field). By acknowledging the constraints of acting upon the future it becomes possible to focus the exercise on these aspects that can indeed be shaped, thus increasing the actual space for manoeuvre. Sometimes there may be more possibilities for change than are obvious at first sight, but sometimes there will also be less.

To sum up, it is critical to clearly acknowledge what the external limiting factors are in order to ensure that the expected outcome is realistic. The more the limitations of Foresight are clarified and acknowledged, the more it can concentrate on the issues where there is actually room for manoeuvre, thereby optimising its efforts and real impacts.

6.3 Involvement of policy-makers in the design

The concept that Foresight exercise could be jointly designed by both the Foresight team and policy client from the very onset was intensively discussed during the Mutual Learning workshops. There was consensus among the participants that high policy impact can be achieved only if there is a mutual understanding of the needs, of the potentialities and limits of the approach and of the specific constraints. This "mutual understanding" can only emerge through a process of "knowing each other". Therefore, it is crucial that a joint design phase turns out to be more than just a one-off consultation and becomes a real attempt to build trust and mutual understanding. Much more than the one-way communication of the demand from policy-makers to Foresight practitioners, this phase should be conceived in terms of "joint construction" of demand.

Although this way of proceeding might initially sound natural and trivial, the practice shows that this is a major challenge. Indeed, Foresight practitioners regard too often the policy-making system as a black box with a static, pre-existing demand that they expect the policy client to communicate to them in the form of one package of clearly-defined specifications. And on the other hand policy-makers do not want to become involved in issues relating to Foresight methodology. Instead, they expect practitioners to arrange the exercise to fulfil their needs without having a clear picture of what kind of needs Foresight is able to address.

6.4 Involvement of policy-makers in the process

The most straightforward suggestion for easing the tension between the "informing" and "facilitating" functions could be to involve policy-makers in the exercise more actively. However, how close an exercise should be to the policymaking process is a hotly debated topic. There are arguments and experiences supporting ideas in both directions: involvement of policy-makers as a barrier and as an enabler of policy impact. The two positions in the debate are summarised below.

If policy-makers are more intimately involved in the Foresight exercise, they become part of the learning process and draw their own conclusion for their decision making needs. In policy-making circles, as in many other places, there is a strong "Not Invented Here" syndrome. If the advice comes out of the blue, it might not be understood and therefore certainly not be embraced and translated into decisions. Policy-makers have to feel that they own the output, and this is only possible if they are actively involved in the whole process from the outset.

On the other hand, Foresight practitioners have argued that at least in some phases of the process, Foresight activities should remain separated and "keep their distance" from the

decision-making process in order to be able to find novel alternatives. The participation of policy-makers within the Foresight process might not be innocuous:

- The free, creative and future-oriented thinking can be hindered because of policy-makers influencing the whole exercise to defend their vested interests[6].

- Other participants may also divert this thinking into a lobbying process by trying to transmit "their" messages directly to the policy-makers.

- Policy-makers are often not prepared to contribute on their own behalf but only as the representative of their institutions, thereby transmitting institutional paradigms or standpoints which may not be relevant for the new challenges.

- Tensions can be created between the short-term needs of policy decisions and the development of long-term visions. The whole exercise might even become locked into internal conflicts or debates (Barré 2001, Barré & Salo 2002).

- The view can be further bolstered that Foresight and other types of policy-support instruments are not balanced and neutral but on the contrary all about justifying decisions that have already been taken, e.g. as an instrument for preparing restructuring measures (see § 4.6 Symbolic function). This is already a widespread opinion about consultancy in the business sector. Therefore, in some cases policy-makers themselves prefer not to be involved with the Foresight exercise so that its outcomes can later be considered as completely independent from any policy influence.

Furthermore, some specific circumstances would strongly justify keeping policy-makers out of Foresight activities. In countries emerging from the legacy of central planning, such as Hungary, it might be desirable to further emphasise the expert-driven, bottom-up, decision-making approach to break away from the highly-centralised, top-down system (Havas 2003). Other circumstances may include authoritarian organisations, the lack of adequate methodologies or room for manoeuvre to contain the influence of policy-makers, their ignorance of the issues at stake, or Foresight on issues being object of strong policy controversy.

In any case, the involvement of policy-makers in Foresight activities causes several practical difficulties and has to be carefully designed. A possible approach to manage the involvement of policy-makers could be to assign them specific roles that suit their perception of their relationship to the process. The question would therefore not be if policy-makers should be involved in Foresight activities but how and when would be more appropriate for them to be involved. This comes back to the concept of a tailored exercise with specific phases, some involving policy-makers and some not, as discussed above.

6.5 Adding a policy-definition phase

Each exercise has to be considered afresh as a specific case. There are exercises where direct impact on policy definition is of less relevance than other functions such as "informing policy", "facilitating policy implementation" or "embedding participation". However, it is of high relevance for exercises that set out to support strategy building to move beyond agenda setting into the implementation phase by working directly with the policymakers themselves.

A sophisticated step forward in the thinking on how to "inject" anticipatory intelligence more effectively into the policy definition and implementation phase derives from the concept of

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[6] However, the same argument is valid, to some extend, for any other participants.

"adaptive Foresight" (Weber 2006). The concept is to go beyond both functions of "informing policy" and "facilitating policy implementation" and to complement the Foresight process with a "supporting policy definition" phase where the results are translated into specific policy options and actions. A protected space in this phase will enable policy-makers to open up their hidden agendas, detailing for instance their relationship with other ministries and constituencies. By including an "implementation module" in this way, exercises can be individually tailored to different policy-making bodies and also for other organisations such as companies. In a way this additional "support to policy definition" or "strategic counselling" phase bridges the gap between informing, facilitating and embedding the participation of civil society.

While the need to contribute directly to the policy definition and implementation was shared by Foresight practitioners, a note of caution was sounded during the workshops. In particular it was mentioned that supporting policy definition has an expert-driven tradition in the form of "strategic consulting", whereas in a Foresight exercise the more restrictive phase of strategic counselling would actually be fed by the outcome of a participatory process. The interface between these two phases is problematic and has to be carefully designed.

Moreover, Foresight has to carefully protect its creative dimension, which might be jeopardised if the whole of the exercise is to get more deeply involved in the daily business and constraints of policy definition. In the framework of adaptive Foresight, this could be achieved by actively providing open spaces for unrestricted creativity. Even, it can be expected that the provision of specific spaces for policy definition may ease the provision of spaces for creativity in a symmetrical way.

6.6   Reservoir approach

In many cases it is not possible or even desirable to move into policy implementation by giving direct recommendations on immediate action or by adding a policy-definition phase. Moreover, it is often unrealistic to expect impacts to occur "instantaneously" and time should be allowed for the results to be "absorbed". Therefore, the challenge is to present the outcomes from the collective process in a way that they are likely to be taken up by policy-making, taking into account its continuously-changing nature. In these cases it is considered a good approach to conceptualise and present Foresight results more as a "reservoir" of knowledge resources and policy options that policy makers would be able to dip into over the coming years (PREST 2006). This will limit the fear of and aversion to "prescriptions" that many policy-makers have. This is especially relevant in some policy cultures where it is uncommon to give direct recommendations to policy-makers.

Furthermore the "reservoir approach" would enable uptake by different policy actors as the policy process evolves. This way, in the event of a change in the policy sphere (e.g. as a result of elections) there is still a chance that the Foresight results might be used.

It seems advisable not to over-emphasise prioritisation as the overarching objective of a Foresight exercise. Rather it should be aimed at the development of policy alternatives. This includes resource allocation (money and skills) and therefore gives more space to manoeuvre to integrate other outcomes such as the identification of capacities.

6.7   Addressing choices and values

The normative dimension is important for legitimising the policy. In some cases there can be a temptation to push policy through without much debate for the sake of efficiency, eventually pretending that this is the only possible policy. On the contrary, policy-makers need to link policy

options to normative objectives, choices and values such as sustainability, or quality of life in order to feed a deliberation process on a sound basis before achieving final conclusions (Schomberg, 2007).

On a similar way, if a Foresight exercise is aiming at impacting policy-making, it should not only assume that all the participants are sharing the same values and wishes for the future. It has to make explicit the values it is based on and the desirable futures it is aiming at. For instance, it can refer to widely shared objectives (e.g. international treaties and constitutions) such as the objective of sustainable development with its recognised three pillars (social, economic and environmental) (Schomberg, 2007).

6.8 "Smart communication"

Coming back to the "challenge of policy-advising" and the "bottleneck" at the interface between Academia on the one side and the policy-makers on the other (Figure 1) and drawing an analogy with the theory of signal processing, there are three different ways of improving poor transmission. We can optimise the signal, increase the bandwidth or improve reception (Figure 4).

Figure 4: improving the communication between Foresight practitioners and policy-makers
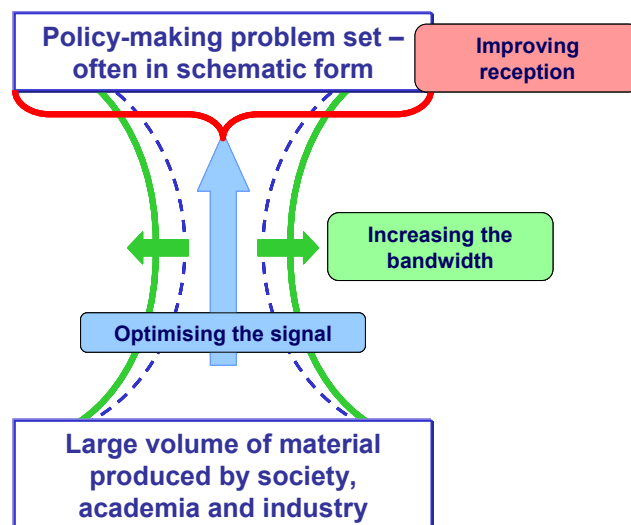
"**Increasing the bandwidth**" allows a greater quantity of information to go through. Additional consultation mechanisms at different steps of policy-making could be created to increase the interaction between policy-makers and policy-advisers.

"Smart communication" refers to the use of parallel signals, in an analogy to the voice and ADSL signal being transmitted in parallel on telephone lines. These imply a targeted use of up-to-date attention-grabbing communication tools: coupling qualitative and quantitative information, graphics, YouTube[7]-like videos and other multimedia materials, creative networks, open communities, theatre play, gaming, ambience design, and virtual reality which all aim at

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[7] http://www.youtube.com/

activating the five senses for a richer, more powerful and captivating communication. This may nevertheless have the drawback of loosing credibility, especially in conventional environments.

The communication strategy to policy-makers has to be specifically tailored. In some cases, it is possible to involve stakeholders or media as alternative channels to get messages through to policy-makers. However this is risky and may produce undesirable side-effects.

"**Optimising the signal**" means that the same quantity of information goes through but that it is richer in terms of content, or knowledge. This can be done by enhancing its quality, relevance, usability and timing.

"**Improving reception**" would mean in this case increasing the attention and concentration of policy-makers. This can be the case if the topics under consideration have recently hit the media in relation to recent threatening events (e.g. good reception of food-safety diseases in times of BSE crisis). To be short, the reception will be improved if policy-advisers in general and Foresight practitioners in particular, benefit from a high credibility for having provided good material in the past.

7 "Mode 2" Foresight

A strong point made during the last consolidation workshop is the emergence of the concept of "mode 2" Foresight in relation to policy-making, which is transcending the "mode 1" approach developed so far.

In the traditional "mode 1", the mandate of a Foresight exercise is to improve and optimise the existing system. It has to remain "within the box" even if it can somehow push the borders through gradual evolution and incremental changes. Accordingly policy makers can be considered partners because they can gain from a more efficient system. The approach developed so far within the Mutual Learning process with the functions and guidelines were considered to be part of this approach.

On the contrary, the objectives of "mode 2" Foresight are to debate, define and promote fundamental changes in the current system. "Mode 2" Foresight is required when the established paradigms are fundamentally un-adapted to the new situation emerging from fundamental changes in the environment and when a new system based on radically different paradigms has to be built. As far as policy-making is concerned, one of the most important characteristics of mode 2 Foresight is that policy makers cannot predict, frame or control where things are going. They may have much (or perceive to have much) to lose within the redefinition of the system and may therefore become fierce opponents of the undertaking. Accordingly, the Foresight exercise is likely to become intrinsically slow-moving and full-of-conflicts and process.

It was stressed that mode 1 and mode 2 Foresights are fundamentally different in their objectives and their modalities. The distinction should be made from the definition of the rationale and objectives of an exercise. It is misleading and might be counter-productive to present an exercise as being "mode 1" when fundamental changes and therefore a "mode 2" exercise are needed. Accordingly, it does not make sense to attempt designing tools such as guides or tutorials to serve both purposes. The FORLEARN Online Foresight Guide is and should remain a guide for "mode 1" exercise.

8 Conclusions and outlook

This paper elaborates upon results of a series of workshops where practitioners and policy-makers have been jointly revisiting the impact of Foresight on policy-making. As a starting point, the two core functions of Foresight for policy, namely "informing policy" and "facilitating policy implementation", are considered. Both functions are recognised as making valid contributions to policy-making, each in specific stages, such as policy design or implementation. However, each contribution poses certain challenges and fulfilling both within one exercise leads to tensions. This therefore calls for careful tailoring of the Foresight design to achieve the desired impact on policy-making.

At least in some cases, there is a need to go beyond these two functions and to move deeper into policy definition. This "support to policy definition" or "strategic counselling" has to be considered explicitly as an additional function to be developed in close interaction with the policy-makers. It could possibly form a separate phase of a larger exercise.

Design features such as the level of participation, the thinking and dialogue need to be carefully adapted to the different forms of impact that are intended. Otherwise there is a danger of raising false expectations and achieving little impact at all.

The need for further academic research was highlighted during the discussions and through the outcomes of the Mutual Learning process:

- What are the level and modalities of participation depending on the objectives of the exercise;

- How to take into account concretely the normative dimension and values within Foresight activities;

- How to concretely implement an adaptive Foresight exercise and more especially how to articulate the successive phases.

The emergence of the concept of "mode 2" Foresight is directly challenging the established paradigms and may convert some policy-makers from partners into opponents. Therefore, it is opening completely new perspectives in the way Foresight activities are undertaken and carried out in organisational settings.

The insights generated through the Mutual Learning process will be translated into more practical guidelines for Foresight design and incorporated into the FORLEARN Online Foresight Guide[8].

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[8] http://forlearn.jrc.es/guide/0_home/index.htm

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