

## Adaptive Foresight: Navigating the complex landscape of policy strategies

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### Abstract

Adaptive Foresight has been developed at the crossroads of foresight and adaptive strategic planning. Innovation is seen as increasingly complex, interdependent and uncertain and therefore in need of broad and multi-disciplinary exploration and participation. The adaptive planning paradigm provides a natural guide for navigation of this complex landscape: one should consider whether strategic decisions should be deferred until more information is available and simultaneously whether to invest in (real) options which would facilitate the implementation of such decisions if taken some future time. This does not mean that all strategic decisions should be deferred. Rather it is the careful combining of commitment and opportunism that best enables actors to pursue their super-ordinate values and objectives. Compared to conventional foresight, Adaptive Foresight thus favours a more modest interpretation of the collective ability to “shape the future” and stresses the need to adapt to actions by others. Here it is equally important to be able to exploit the upside of uncertainty as to abate its downside. The purpose of this paper is to achieve a conceptual consolidation of Adaptive Foresight, to review in a fairly hands-on way methodological experience thus far, and to outline the substantial methodological challenges ahead.

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## 1. Introduction

When is a foresight process effective? At the end of a recent foresight and scenario development process in Austria, dealing with scenarios and options for establishing production–consumption chains based on renewable resources, the participants were asked for an assessment of the process and whether it had been useful for them to participate. One of the industrial participants spelt out very explicitly that by participating in the process his firm became aware of a mis-perception of the future potentials of the technological trajectory they had pursued so far and that as a consequence of participating in the process they were revising their own business and R&D strategy. This anecdote suggests that foresight can and does have an impact on decision-making, and that a main criterion of effectiveness is that it should lead to a reconsideration and modification of actual policy strategies because the perception and the expectations of actors with respect to future developments have changed as a result of the process. Other criteria such as a better understanding of future challenges and pathways or the formulation of alternative decision options are mere ancillary arguments. The litmus test is the impact on decision-making, either in the short-term or the long-term.

In order to have an impact on decision-making, it is necessary to create an explicit link between foresighting and decision-making. Decision-making in relation to innovation and new technology, be it from a company's or from a public policy perspective, is confronted with the need to navigate increasingly complex decision landscapes. This complexity is due to the increasingly interactive and multi-actor character of innovation processes, a development that – in conjunction with the new possibilities offered by information and communication technologies – has given rise to an internationalisation of research and innovation. This obviously makes the anticipation of future developments and their consequences more difficult than ever before.

To be perceived as useful and effective, forward-looking exercises must enable decision-makers to better understand and cope with this interactive, complex and inherently uncertain character of innovation. This requires first of all that these approaches are based on and reflect an appropriate understanding of the changing characteristics of innovation and decision-making. Secondly, they should contribute to the mobilisation and coordination of the decision-making by different actors. Thirdly, they must be able to deliver insights on possible strategies and options for individual actors on how to “change course” and direction, or at least enable to think “out of the box” about qualitatively different approaches and strategies. The purpose is to develop new things, to upset established agendas and give rise to new approaches.

New approaches to forward-looking decision support are currently being developed that take these requirements into account. Conventional forecasting approaches with their aim of predicting the future were based on a linear understanding of processes of socio-technical change that is simply an inappropriate representation of reality and thus misleading rather than enlightening with respect to informing decisions. The foresight tradition that has become quite prominent particularly in public policy takes into account the interactive character of innovation and stresses the need for participation as a means to enhance the coordination and mobilisation effect. However, although the dominant model of foresight pursues a more modest level of aspiration than forecasting, it strongly stresses the “collective ability to shape the future” and tends to under-estimate the limitations to which decision-making is subject in the face of interactive and globalised innovation processes.

To be able to shape the future to some degree, actors need to be able to adjust to external developments and other actors' strategies as they unfold and make sure they focus their shaping power on their highest priorities. Moreover, we would like to argue that while the collective dimension of foresight is important,

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