Comparison of auctions and alternative policy options for RES-E support

This report concludes the work carried out in the course of Task 6.2 of the AURES project. It is its aim to compare auctions with alternative policy instruments and in particular, to examine under which circumstances auctions may be superior and inferior to achieve intended policy targets. For that purpose, we identify a number of potential drivers that might affect an instrument's effectiveness, its efficiency and further success criteria. Among this list of relevant drivers, the basis for our analysis is the factor risk, where our core focus is on risk for policy makers. Assuming a world of uncertainty, particularly policy makers or regulators are exposed to the risk of setting inefficient investment incentives by implementation of wrong policy. As such, the aspect of risk is deemed one of the most important challenges for the deployment of RES. We demonstrate that risk and uncertainty respectively constitute important factors understanding the decision-making of policy makers regarding which instrument to use. However, we also point out that independent of its importance, the factor risk constitutes only one of many factors, which may be relevant when selecting a policy instrument.

Our main analysis consists of two parts: First, we conduct a theoretical analysis, which summarises the insights gathered by Weitzman (1974). It illustrates that with uncertainty regarding the marginal costs and marginal benefits of RES, particularly the choice between price (e.g. a FIT) and quantity (e.g. an auction) instruments will be decisive, since incorrect price or quota signals may have different effects. In essence, while price schemes may reduce the risk of welfare losses given a relatively steep marginal cost and a comparably flat marginal benefit curve, a quantity scheme may be superior if the relation between the two curves is vice versa.

In the second part of our analysis, we employ modelled data by Held (2010) in order to build on the theoretical insights and compare the slopes of real marginal cost of RES in different European countries. Our main conclusions can be summarised as follows:

1. The incentives for the use of particular policy instruments to support the deployment of RES are both country and technology specific. In general, it appears that the incentive to employ a quantity-based mean such as an auction is larger when the natural resources of the technology that is to be supported are abundant and if that technology is rather well developed. Besides that, it requires a competitive market for an auction to be effective.

2. Since within a country the market and natural conditions of the different RES technologies and hence their supply costs may vary considerably, it seems possible that there exist incentives for both price and quantity support schemes. Our findings therefore provide an argument against a technology-neutral support.

3. Our analysis stresses the importance to consider temporal developments. Since both the potentials and the costs of the different RES technologies will change over time, so may the incentives for their support. It is therefore not only necessary to conduct a static assessment of RES potentials and their costs respectively but also to consider their dynamics.

Our findings suggest that with uncertainty regarding the marginal costs and marginal benefits of RES, there may be valid reasons for policy makers not to employ auctions, since under particular circumstances it may be desirable not to control quantities but the price. As such, they raise the question whether pure support cost minimisation should be the only goal when implementing regulatory policies. Our report develops useful insights, which may serve to argue for exceptional cases towards the European Commission. Moreover, it provides guidance to policy makers by indicating how to conduct similar yet case specific analyses.

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