

Foreword

In recent years, there has been renewed interest in the fuel mix strategy of utility firms. The nuclear catastrophe in Japan demonstrated that existing power plant technologies carry risks which have not been adequately priced yet. In addition, energy consumption in the world is soaring. As a result new power generation capacities are needed. The emission reduction objectives of the European Union as well as the finiteness of fossil fuels require investments in new power plant technologies; moreover European utilities do have to replace over aged power plants in the near future. As a consequence, a wave of replacements and investments in power generation capacities is expected within the next years accompanied by a shift in the energy fuel mix.

The most efficient composition of power plant technologies, however, has hardly been an issue in the relevant academic literature so far. Sebastian Rothe aims to close this gap. To derive such a composition, he mainly draws on the traditional portfolio approach of financial theory. In this respect, the analysis sheds light on the determinant factors that result in an economically efficient portfolio and that help assemble an efficient power plant mix over time.

Furthermore the analysis takes the change of the CO₂ emission regulation into account.

The work of Sebastian Rothe contributes to the academic literature, as based on the work of Roques et al. (2008), Sebastian Rothe has managed within his doctoral thesis to handle an extremely complex and actual topic. His findings and recommendations are valuable not only for scientists but also for practitioners.

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