

Doctoral Programme in Law and Economics

XX cycle

Extended Abstract

*“The European Electricity Policy:
Can the Transmission Grid Guarantee a Competitive, Secure
and Green Industry?”*

Doctoral Candidate:

Fabio Domanico

January 2008

***The European Electricity Industry:
Can the Transmission Grid Guarantee a Competitive, Secure and
Green Industry?***

Fabio Domanico

Extended Abstract

This thesis addresses several aspects of the ongoing and much debated issues within European electricity policy, relating to a more competitive, secure and green industry. The analysis in this work differs from the focus in most of the literature. This study is undertaken from the point of view of the transmission grid infrastructure, and investigates whether this segment could play a proactive role in the achievement of the three aspects of European electricity policy referred to above. While in the past the transmission grid has been rather overlooked, it is now seen as central to the electricity industry debate. The different goals of EU electricity policy cannot be fully achieved without appropriate attention to the grid infrastructure.

This thesis is structured as follows. The first chapter analyses the current competitive and regulatory frameworks within the European electricity sector and the results achieved by the liberalisation process, mainly in the generation segment. While this work clearly underlines that EU integration is insufficient, the role of the grid infrastructure is analysed in order to foster competition and avoid strategic behaviour by incumbents.

The second chapter underlines the importance of grid infrastructure investment within the European electricity sector in order to maintain and develop a secure electricity system and achievement of a “robust” transmission grid. In particular, the ownership arrangements of Transmission System Operators (TSOs) across Europe as well as the investments patterns of a sample of operators are studied in order to understand the effect of strategic behaviours coupled with regulatory imperfections. The role of regulation as well as more coordination of TSOs and other authorities are investigated as a possible answer to the creation of a “robust” transmission grid which avoids risks such as blackout and anticompetitive behaviour, which is exacerbated by information asymmetries.

The third chapter investigates the development across Europe of renewable energy sources for electricity (RES-E) in connection with grid transmission barriers, with particular reference to wind power deployment. The development of RES-E, and the establishment of a European regulatory framework are analysed following an examination of the impediments to RES development and particularly those deriving from grid transmission barriers. The discretionary power of TSOs leading to anticompetitive risks, and the nature of new players in the renewable business is underlined. A case study of wind power deployment is carried out, which confirms the general impediments to further RES development and indicates how the cost approach to grid transmission connection could play an essential role in the achievement of the “green pillar” of European energy policy.

In sum, while the three main pillars of European energy policy may lead to some contradictory and perhaps not very satisfactory results, this thesis aims to underline the importance of the transmission grid in the further development of these goals. The work investigates whether the transmission grid can play a proactive role in the achievement of these goals, noting that TSOs control only one key segment of the electricity value chain. The various issues within European electricity policy can be mitigated if not solved by greater attention to the transmission grid infrastructure across Europe. This work shows that an efficient grid infrastructure is essential for the development of the Internal Market for electricity, increasing both national and cross-border interconnections in order to reduce the scope for market power abuse and to boost competition. In addition, a well connected internal and cross country industry would enhance the reliability of the system at both national and international levels. And finally, a robust transmission grid would allow the deployment of distributed generation, such as green electricity productions, hence favouring green electricity penetration. However, further regulatory steps will need to be undertaken.