
A EUROPEAN MARKET FOR ELECTRICITY?

Monitoring European Deregulation 2

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Foreword

The regulation of network industries has emerged as a key issue on the European policy agenda, yet there is little high quality research capable of informing European policy-makers on these issues. In 1997, the Centre for Economic Policy Research (CEPR) and the Swedish Center for Business and Policy Studies (SNS) therefore launched a new series of reports on *Monitoring European Deregulation*. The aim is to bring together annually a team which includes some of Europe's leading researchers in the field of network industries to specifically address the issues of regulation and deregulation in Europe. The first Report was published in September 1998. The initial section of the 1998 Report concentrated on the general issues which arise in the regulation of network industries, with a second section focusing specifically on the telecoms industry.

This is the second report launched as part of the *Monitoring European Deregulation* initiative and concentrates on the deregulation of the electricity industry. As with the previous title, the authors begin with a comprehensive guide to the key economic developments currently affecting the network industries as a whole. The detailed study of the deregulation of the electricity industry which follows is split into three distinct sections: the authors begin by analysing the key issues in electricity market integration and liberalisation; this is followed by six country studies; and then, in the final part of the Report, the authors examine the problems and experiences of liberalisation and the policy choices facing the regulators.

The research was financially supported by a number of European companies in the electricity industry. A Reference Group consisting of representatives of these companies (see the list on page xiii) commented on drafts and provided advice to the authors on the issues raised in the Report. The authors enjoyed complete academic freedom in writing the Report, but the industry practitioners in the Reference Group thereby played a valuable role in its preparation. CEPR and SNS are grateful for the financial support that made this venture possible and for the help and enthusiasm provided by members of the Reference Group, chaired by Mr Lennart Lundberg, former Senior Executive Vice President of Vattenfall (Sweden). A research grant from the Swedish Competition Authority is also gratefully acknowledged.

We would also like to thank the authors for all their hard work in producing this insightful Report which will, we are confident, be of great value to anyone interested in deregulation issues. The views expressed in the Report are those of the authors writing in their personal capacity and neither CEPR nor SNS take any institutional policy positions.

Hans Tson Söderström
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October 1999

Executive Summary

All current members of the European Union and quite a few hopefuls are liberalizing their electricity markets. Some, like Sweden and the United Kingdom, started the process several years ago and have already accumulated significant experience. Others, spurred into action by the European Commission's Electricity Directive, which was issued in February 1997 and targeted for implementation by February 1999, have just begun to implement their new regulatory framework.

This Report, the second in the *Monitoring European Deregulation* series, explores the obstacles to a single European market for electricity, examining the policy choices facing the regulators at both national and EU levels. The Report combines analyses of key issues in electricity-market integration and liberalization with evaluations of practical experiences in the United Kingdom, the Nordic countries, Germany, Spain, France and Hungary. These experiences suggest one important lesson, according to the Report: liberalized electricity systems work – the technical breakdowns predicted by the sceptics just have not happened in the EU.

There has been great variety in different national experiences of liberalization in terms of the degree of concentration in generation, the stringency of unbundling requirements, the design of market mechanisms, and the extent and nature of public ownership and regulatory institutions. By combining theory with this empirical evidence, however, the Report is able to reach a number of significant conclusions and make several bold policy recommendations. It draws a distinction between observations that are relevant to the design of national electricity systems and those that are of particular importance to the emergence of a single European market for electrical power.

I. National issues

At the national level, the Report unambiguously calls for:

- *Reducing concentration in generation.* Whenever market size and the minimum efficient scale of existing power plants allow, a redistribution of generation assets is the preferred approach. The distribution of ownership appears to matter more than its public or private character.
- *Separation of ownership between natural monopoly elements of the system and other activities.* Accounting or even legal separation are not sufficient.
- *Ownership of the transmission system in the hands of the transmission system operator.* Where the whole transmission system is under single ownership, there are advantages in having systems operation in the hands of the transmission system operator. This ensures the solvency of the transmission system operator, which can then be made subject to powerful incentive schemes. In the case of several grids under separate ownership, transmission systems operation should be independent.

- *Regulated third party access to networks.* This is more transparent and hence preferable to both negotiated third party access and the single buyer model. These two alternatives give vertically integrated transmission owners the power to delay the transactions of their rivals. They are also likely to result in stranded contracts, which would hamper further liberalization of the market.
- *Universal service requirements and environmental policy objectives to be met through a combination of licensing requirements, taxes and emission permits.* In a liberalized market, such goals are achievable using these instruments.

Not all aspects of regulatory reforms lend themselves to such bold recommendations. It is, for example, too early to evaluate fully the effect of liberalization on investment incentives. Nevertheless, it appears that explicit incentives, such as capacity payments, are needed and that tender auctions might be the most efficient way of securing non-financially viable renewable generation or even some ancillary services. It is also a little early for a thorough evaluation of the benefits of retail competition. The evidence so far is that retail competition based on metering does not work. On the other hand, competition based on profiling with caps on transaction fees might be effective.

Finally, there are aspects of market design for which there is no clear choice. For example, generation contracts with decentralized dispatch can, in theory, achieve overall system efficiency provided that transmission tariffs are adjusted continuously and all agents react rationally to price changes. In practice, however, transmission tariffs are bound to be imperfect, so that the coordination function of a mandatory pool with centralized dispatch becomes valuable. In this regard, the proposed reform of the trading arrangements in England and Wales, moving from a mandatory gross pool to a balancing pool, could provide some useful evidence.

II. Single market issues

If the single market for electricity is to become reality, it must be as easy to trade electrical power between countries as between different parts of the same country. Access charges are the key to an integrated electricity market, the Report argues. Europe needs a transmission pricing system with the following characteristics:

- Access charges that are simple, transparent and only depend on the point of connection.
- An allocation of charges between entry and exit points that is uniform across jurisdictions and allocates at least a small share to the entry point.
- Some geographic differentiation of access charges to provide incentives to relieve congestion and reduce overall transmission loss.
- A scheme for financial compensation between transmission system operators for transit and loop flows.

III. An agenda for the European Commission

The Report concludes that the Commission should consider supplementing the Electricity Directive with:

- A required separation of ownership between generation and transmission/distribution.
- Strict competition policy oversight of integration between generation and retailing (supply).
- Harmonizing non-tariff conditions for access to transmission and distribution networks.
- The promotion of international transmission pricing rules based on the principles described under the single market issues above.
- The creation of a body in charge of identifying the need for new interconnection facilities, allocating the cost of these facilities between participants and drawing up compensation schemes that ensure a fair and efficient recovery of these costs.
- The organization of a system of trading permits for emissions.

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We received excellent and very valuable comments when a preliminary version of the Report was presented to a meeting at the European Commission in Brussels in June 1999. Special thanks go to Pier Paolo Merolla of DGIII and Christopher Jones of DGXVII for the comments and to Ioannis Ganoulis and Geert Dancet for organising the meeting.

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The views expressed in this Report are our own, and all errors are, of course, our own responsibility.

