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CEER Single Energy Market WG/TF Report

CEER Working Paper for Florence Key interactions and potential trade distortions between electricity markets

**Final Report
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Single Energy Market WG

Introduction

1. This Working Paper sets out the CEER's initial high level thoughts on the issues that might be important when considering interactions between electricity markets. It will be important to think about how such markets might interact with each other so as to promote effective and efficient competition, and what issues and market arrangements it may therefore be necessary for regulators and others to address.
2. This question of interactions between markets is particularly pertinent in the light of the European Commission's medium term vision for the electricity market, as given in its March 2004 Working Paper¹. The Commission noted that the development of a single EU wide electricity market is likely to be reached via the interim step of the development of a number of Regional electricity markets, where each Region comprises one or more existing national and / or TSO systems. It set out an initial view of which countries would tend to be grouped together for each Region, together with an indicative timetable of when these might be expected to be more developed.

¹ DG Energy and Transport Working Paper Strategy Paper Medium term vision for the internal electricity market March 2004

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Background

3. The creation of a fully integrated, effectively competitive single market for electricity will deliver many benefits for consumers. A fully integrated single market should for example maximize possibilities for efficient trade and effective competition. Properly integrated arrangements should allow effects in one part of the market to be properly taken account of in another part of the market. Such issues are particularly complex in electricity markets where the operation of the market relies on fair access to a shared common network, electricity cannot be stored, and ‘loop flows’ mean that physical actions by market participants in one area can have significant impacts on physical operation and costs elsewhere.
4. Such a single market for electricity requires many issues to be addressed. The effective separation of monopoly network from competitive activities and market structure issues are particularly important. In addition, the reality of a diverse set of existing market structures and arrangements means that there are some complex technical, economic and political differences and interactions to address before reaching a fully integrated single market.
5. Wholesale trading arrangements for example differ markedly across the EU, as do access arrangements to and rights for electricity transmission. System operators currently operate within certain national rules and borders, with limited regard to the wider EU market. System operators must however simultaneously cope with ‘loop flow’ and other effects on their network caused by actions on neighbouring networks over which they have no control or perhaps knowledge. The extent of interconnection and harmonization differs markedly across the EU. Some groups of countries have already developed certain common operational and trading arrangements. Other countries are doing so, generally on the basis of existing physical and trading links.
6. This reality means that the integrated single market is likely to be reached via one or more interim steps. One path would be through the establishment and further development of a number of Regional markets, as described in the Commission’s medium term vision paper. Market arrangements within Regions are likely to be relatively strongly harmonized, and reflective of strong underlying physical, institutional, and political links. The Nordel Region is a good example of a Regional electricity market. These more harmonized arrangements can lead to the application of similar rules for all market players and hence tend to promote

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efficient trade. Regions or markets would in due course become more closely integrated and so approach the single market paradigm.

7. Such an approach would have the advantage of being a controlled development of existing arrangements, where such development retains an overall view on the end aim. Some integrated arrangements, where they involve TSOs, could start to make the necessary trade offs between physical effects and costs in one part of the market caused by market participants in other parts of the market.
8. The CEER agrees with the Commission's view here that such an approach is a helpful way forward. The CEER has the view that this 'Regional' approach is a pragmatic one that recognizes and reconciles existing realities with the long term goal of single EU markets and offers the prospect of making real progress. The CEER would stress however that it is not straightforward or necessarily possible to identify any one set of 'Regions', and that ideas on these could well differ depending on market activity or market definition indicators analysed.
9. The CEER therefore is fully committed to contributing to the analyses necessary for and development of this approach. This Regional approach will require Regulators and TSOs in particular to co-operate closely where they oversee adjoining markets. Such a framework is, in the view of the CEER, an essential element if Regulators and TSOs are to play their part in addressing the problems caused by market interactions.
10. As a first contribution to this analysis, the CEER in this paper sets out some initial thoughts on interactions between markets. It will be important for example, in attempting to move towards genuinely single and efficient markets, to ensure that different arrangements between Regions do not by themselves promote inefficient trades or lead to suboptimal investment decisions within or between Regions or that the systematic search for pan European technical solutions should not, as a result of the inherent difficulty, delay progress.
11. It will therefore be necessary in our further work to set out a brief view of what we mean by 'Regional markets' to inform our understanding of the key interactions between individual Regions and hence the implications of different arrangements between Regions for trade and investment. Such an understanding will provide the basis for recommendations for market arrangements. It will also be necessary to address the institutional barriers to achieving successful outcomes.

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12. The paper also discusses the need for some form of underpinning regulatory framework to place obligations and responsibilities to address interactions between markets.

Interactions between Regional Markets

13. Differences in arrangements between Regions for any electricity market activity have the potential to produce inefficient trade. Trade here includes both short term transactions and long term investment decisions. A simple example would be the case where transmission tariffs are placed entirely on generators in Region A but entirely on load in an adjacent Region B. This would, all other things being equal, encourage all generation to locate to Region B even though many other factors (e.g. network reinforcement costs) would point to this being inefficient.
14. Further effects on trade between Regions might result from dissimilar regulatory decisions or market interventions. Particular methods to ensure security of supply in one Region for example can have implications for trade patterns in an adjacent Region which may or may not be efficient. It will be important to consider these.
15. The key market activities on which it will be useful to focus analysis of interactions on are :
- Transmission access and tariffs (including investment incentives)
 - TSO to TSO activity and co-ordination
 - Wholesale markets
 - Balancing mechanisms (including operational safety rules)
16. Regional interactions and distortions might also occur at the retail level. For example, the way in which public service obligations are imposed or retail price controls are arranged in different Regions might well influence trade patterns. However given that wholesale and network interactions are large and complex, and that retail markets have yet to be fully open to competition across the EU, this paper does not consider retail markets further, except to the extent that the activities under consideration impede free trade.
17. The CEER's first thoughts and initial conclusions regarding the potential main causes of distortions to trade that might arise from different or incomplete arrangements between markets and Regions draw on that discussion and are set out in the following paragraphs.

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Potential distortions

18. A first conclusion is that there are numerous potential issues to consider regarding the extent to which different arrangements might significantly distort or inhibit trade across borders. The most significant of these are likely to be :
- appropriate interconnector capacity and investment cost recovery mechanisms;
 - transmission access rights and the need both to enhance network access (financial) predictability across the EU for market players, and TSO incentives to give such access;
 - the need to set in place coherent and cost reflective transmission access charges across each Region that properly integrate congestion management methods and the ITC mechanism;
 - market design issues, for example concerning interface of day ahead trading arrangements and balancing arrangements, the degree of transparency in transmission and generation, or the way in which end user tariff regimes are implemented or regulated;
 - cross border capacity allocation mechanisms;
 - interaction between wholesale markets, power exchanges, and ‘pools’ versus bilateral exchange arrangements;
 - TSO to TSO interactions, for example concerning the problem of how a TSO in one area can anticipate, accommodate and be appropriately remunerated for the effects of ‘loop flows’ originating in adjacent areas; and
 - balancing market interactions, where different parameters between markets (e.g. gate closure) or arrangements (e.g. pay as bid or pay marginal price) could by themselves produce globally inefficient trades only benefiting best informed market players.

Underpinning regulatory oversight

19. In addition, the CEER has the view that these distortions may be exacerbated by a lack of underpinning regulatory oversight of the effects between Regions. That is, a lack of an underpinning regulatory framework and control over the interaction between adjacent member states or Regions together with TSOs’ focus on within area issues results in insufficient account being taken of inter-regional trade and investment.
20. The normal approach to achieving a proper basis for the functioning of the market within Member States is to place regulatory obligations on relevant market players such as TSOs,

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distributors and generators. Such obligations normally include ones relating to investment in the monopoly network to maintain certain standards, balancing the network and emergency provisions. In return the network and generation owners may expect to see a more stable regulatory and investment climate and for its activities to be overseen by the relevant regulatory authority who have monitoring and enforcement functions.

21. However, TSOs' obligations, and the responsibilities of national regulating authorities seldom extend across the borders of Member States. In the few examples where TSO activities do extend beyond their own network it has generally been as a result of local political initiative (e.g. Nordpool) or co-operation when it is in the sole mutual interest of TSOs (e.g. UCTE). However, in these instances the regulatory contract is incomplete since there is no accompanying extension of the vires of regulatory authorities to oversee these activities. One consequence of this 'regulatory gap', as an example, is that there are few direct market based incentives for the construction of cross-border infrastructures. Trade flows and investment decisions are also therefore unlikely to move towards an optimal level overall. Similarly, balancing, tariffs, access and other important areas of potential interaction are not necessarily developed within a framework where enabling trade across borders is a key consideration. A further concrete example of a 'regulatory gap' is the fact that some national regulatory authorities are forbidden to share confidential information with other national regulatory authorities, even where this might be necessary to monitor and assess cross border trade activities. Member States should harmonise the national regulators functions to reduce this 'regulatory gap' likely to hamper the achievement of the Regional and European markets.
22. There may be a number of ways to address this problem. In devising regulatory measures to address single market issues, consideration should be given to the underlying approach. Often it may be more effective to enhance the objectives, scope and authority of TSOs, and the relevant regulatory authorities so that they are empowered to cooperate fully in order to reach a pragmatic solution which fits their circumstances, rather than devise a specific common solution to apply across all markets in all circumstances.
23. Hence a pragmatic approach that builds on existing competences and which recognizes the need for expertise at a local but also cross border level would be for existing national regulators and TSOs in adjacent markets to develop solutions to specific local problems, but

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taking account of wider EU objectives. This approach may require extension of the statutory bases that underpin regulatory vires in order to give a legal basis to decisions involving cross border elements. An accompanying and underpinning framework of obligations and responsibilities is also needed to enable TSOs and regulators to act. In some cases it may be that a single central measure is appropriate in order to impose a single solution across all Member State markets, although in the view of the CEER such control measures are likely to be the exception rather than the rule.

Next steps

24. Going forward, the CEER suggests that it will be helpful to continue the consideration of the 'interactions' question with a focus on the priority areas mentioned above. This analysis should help identify the important interactions that distort trade, their relative importance, and their solutions. Such solutions are likely to include technical and regulatory aspects. The CEER would welcome input and advice from, among others, ETSO and EFET, in identifying these problem areas. The CEER will undertake further work on the criteria for the definition of Regional markets and will assess the usefulness of such techniques in determining the degree of integration of markets as well as the identification of the sources of distortions.
25. CEER suggests that a similar approach would be relevant to the gas market as well as the electricity market.

