

Interconnectors
Supplementary Paper by London Electricity Group

Background

At the meeting between London Electricity Group (LE Group) and Nick Hartley of the Productivity and Innovation Unit (PIU), LE Group expressed the view that the role of interconnection between electricity markets may not be receiving due recognition within the review of long term energy policy objectives. LE Group offered to provide a note on the issue, and this memorandum fulfils this remit.

LE Group, primarily through our parent Electricité de France (EDF), has access to extensive knowledge on interconnection development and operations. EDF is a recognised interconnector developer and cross-border trader. Through its separate transmission business RTE, it is part owner of the 2GW DC cross channel interconnector to France and has ownership interests in a further 9.8GW of interconnection capacity with 5 jurisdictions. In 2000, in all some 69TWh of trade occurred across these assets.

Benefits of Interconnectors

LE Group believes that electricity networks provide several essential attributes to well-functioning electricity systems and markets. They bring a better level of security of supply. They also broaden options for trade and, by sharing local supply diversity, enable both greater competition and greater supply flexibility. The more efficient operation and development of energy transport networks can then be ensured by non-discriminatory access to networks for all network users within an independent regulatory framework. As we set out in our submission on the network security scoping note, network owners and operators must be incentivised to maintain and invest in their networks if the market infrastructure is to be sustained and developed.

We believe that exactly the same principles apply to interconnectors as to national networks though the security of supply benefits can be disproportionately greater.

In the past the two main objectives of interconnectors were to facilitate trading and to seek **greater security of supply** by mitigating the impact of one-off national incidents through system-to-system support. In this context interconnection can be likened to an insurance policy that enables sharing of diversity both in terms of prices and quantity in the event of supply disruption. These benefits can work in both directions. To illustrate, during the miners strike in the mid 1980s the cross channel link operated as a 100% import from France. During industrial problems in France in the early 1990s, the flows were reversed.

Industry structures and attitudes have since changed and, especially with the development of the concept of the Single Energy Market, interconnectors are now seen as much as **a facilitator of competition**, providing access to surpluses and cheaper supplies between jurisdictions and increased trade. Take another example: wholesale prices were generally some 10% cheaper north of the border than in England and Wales in the early years after vesting and surplus Scottish capacity found a market in England and Wales to the general benefit of England and Wales consumers,¹ leading to the Scottish interconnector being significantly upgraded.

It is now recognised that interconnectors also offer **environmental benefits**, by providing wider access to diverse natural resources and low emission plant. Hydro power from Norway is already widely exported to more fossil fuel dependent markets in northern Europe, and NGC and Statnett are presently developing plans that would result in a new 500MW interconnection with Norway that would enable the UK to access Norway's extensive hydro reserves. The European Union is also seeking to develop a greater uniformity in trading in environmental benefits². It is important that national schemes such as the Renewables Obligation (RO) in Great Britain do not set up barriers to suppliers accessing these environmental benefits by artificially restricting access to potential supplies in a market that is already likely to be short in its early years (as is the case with the current RO proposals).

Implementing the Single Energy Market

The concept of open or third party access (TPA) should apply equally to interconnectors as it does to national networks. A lack of network infrastructure and the impairment of stable operating conditions can also slow the integration of national markets and limit security of supply.

A number of barriers still exist to development of the single market within existing interconnection arrangements, and various programmes to address them are being promoted by the Commission, regulators and ETSO, the trade association of transmission system operators. Further attention needs to be paid to resolving the issue of cross-border tariffs in Europe. Resolving congestion management issues will also help to improve the efficient operation of existing networks and trade between them as well as the functioning of the internal market. Co-ordination and co-operation among electricity markets and between these markets and TSOs could also be strengthened.

¹ Unfortunately barriers to competition in Scotland have meant that it is difficult for England based competitors to compete in Scotland now that the price differential has been reversed and wholesale prices in England are lower than those in Scotland.

² Its sponsorship of the RECs and RECert schemes are examples of this.

The task now is to eliminate these distortions between markets to optimise use of existing interconnection.

Incentivisation of New Transmission Capacity

There remain significant supply bottlenecks within Europe.³ Further action is required to ensure that political hurdles can be overcome in order to eliminate the lack of physical interconnection capacity. Consequently, further interconnection within Europe can be seen as the single most important step towards achievement of the single European Energy Market.

The construction of new interconnection infrastructure should also be encouraged, especially while internal market structures can inhibit interconnector operation and investment⁴. A number of factors can be expected to deter trading between markets and its further development, some of which have been mentioned above:

- political hurdles
- lack of standard pricing methodology
- different market structures
- rules instability
- short term auction allocation.

As a guiding principle, trading structures and market mechanisms should be designed that permit trading between markets.

The European Union believes the political dimension to be particularly problematic.⁵

Looking forward, LE Group supports the recommendation of the Commission in its Green paper:

“A European mechanism for collaboration between interested parties with a view to defining a European plan for the major missing infrastructure could resolve these problems”.⁶

Greater consensus at the industry level can be expected to help manage some of the political objections to new interconnector development. It should also lead to convergence in market rules and charging structures.

³ The main bottlenecks are in Southern Europe and Greece and Spain suffer significant electrical isolation.

⁴ An example is provided by some of the trading rules adopted for the new NETA market, which impose barriers to trading over the interconnector into the UK.

⁵ “Generally, it is more a political problem. Often, plans to build new interconnection capacity run up against constraints calling for a balance to be struck between the public interest, whether Community or national, and local reservations about new infrastructure”, European Commission’s Green Paper *Towards a European Strategy for Security of Energy Supply*, (November 2000), page 70.

⁶ As above.

If a stable rule-based environment can be achieved, interconnector operators are likely to be prepared to invest, assuming they are allowed to earn an adequate cost of capital. This is an important assumption. The present policies of regulators within the EU seem focused on limiting rights for interconnector use to a maximum of three years. Provided there is open access to allocation processes, interconnector users should be able to seek longer term reservations to meet their customers' needs.⁷ Without flexibility in this policy, this **short term focus on limiting commercial arrangements for interconnector use can be expected to significantly undermine the scope for new investment.** It is also essential that regulatory protection is provided to secure investment recovery if the required investment is to be provided by the market. The regulatory framework must also underpin economic incentives for investment and maintenance by interconnector, as well as network, owners and operators.

Conclusions

Integration of electricity markets brings significant diversity and security of supply benefits but can also increase trade between markets and overall market efficiency. Interconnection is the primary means of achieving such integration and access to these benefits. Potentially there are also environmental benefits.

Physical and economic barriers to trade between national markets should continue to be addressed by the EU, state agencies and the industry. Trading rules should create clear incentives for reinforcing existing interconnection capacity and development of new capacity. Above all, proponents should be able to seek contractual arrangements for use of interconnection assets that balance the need for open access with the needs of customers. Certainty of revenue recovery will also be critical to proponents and developers of interconnection schemes.

**LE Group
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⁷ Such opportunities might need to be subject to “use it or lose it arrangements” or other forms of anti hoarding mechanisms.