

Interconnector Policy Review: Working Paper 2 – Socio-economic modelling

Consultation Response

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Non-Confidential

1. Modelling approach (relevant questions: 2, 4)

The working paper rightly observes that scenario modelling holds significant uncertainty due to the rapidly changing energy policy environment and drive towards decarbonisation in both GB and connecting countries. It is, therefore, appropriate to consider a range of plausible scenarios and modelling studies when taking decisions on socio-economic impacts. The paper also argues that, on balance, the assumptions and simplifications used in the modelling are likely to underplay the socio-economic case of future interconnection.

A principal concern is that the socio-economic modelling done by Afry is “based on assumed optimized market trading (including implicit allocation of capacity and electricity)”. A footnote states that “following the UK’s exit from the EU, we acknowledge that the landscape of the trading arrangements has changed, but in line with the requirements of the Trade and Cooperation Agreement it is expected there will be implicit trading arrangement again in the near future.”

The modelling approach, in effect, assumes the equivalent of the optimal implicit trading arrangements existing prior to Brexit: the Single Day Ahead Coupling (SDAC) operating as part of the internal electricity market (IEM). Under SDAC there was a single, highly liquid GB day ahead energy auction, leading to efficient pricing and providing broad market accessibility. Interconnector flows were optimal – i.e., maximum utilization in the right direction up until either all capacity is used or loss-adjusted price differences have converged.

The arrangements envisaged under the Trade and Cooperation Agreement are indeed an implicit solution, but it is unlikely to be as efficient as SDAC. A cost benefit analysis¹ was recently published by the UK and European TSOs on the proposed “Multi Regional Loose Volume Coupling” (MRLVC) solution. This indicated a number of important factors:

- MRLVC must operate separately from SDAC and only have access to data from the bordering bidding zones (BBZs) in SDAC (EU states plus all of SEM).
- To compensate, European TSOs are required to forecast the flows from these BBZs towards the rest of the IEM. The methodology to do this forecast is yet to be developed, and the accuracy that can be achieved is currently unknown.
- If the BBZ flow forecast can compute flows close to the theoretical optimal (SDAC), then MRLVC should be able to reproduce results close to that of an optimal implicit trading arrangements (the assumption in the working paper). However, poor forecasts can lead to:

¹ *Cost Benefit Analysis of Multi-Region Loose Volume Coupling (MRLVC)*, CEPA, Ignis Markets, THEMA, Smart Vision (2021)

adverse and suboptimal flows, loss of producer/consumer surplus, and transfer of surplus between producers and consumers. These effects could be significant.

- A poorly performing MRLVC is also likely to reduce interconnector revenues (including the impact on UIOSI payouts).
- The impact of imperfect BBZ forecasting and associated welfare losses under MRLVC are predicted to increase over time, as efficient flows become more important with increased RES penetration. Both the challenges of producing these flow estimates and the adverse impact of imperfect coupling are likely to increase if cross-border prices converge or frequently switch direction (Ofgem’s scenarios predict just such changes). The impacts may also vary from one interconnector to another.

In summary, while the modelling that has been done may in other respects “underplay the socio-economic case of future interconnection”, it almost certainly over-estimates the socio-economic impacts of GB no longer being part of the IEM and SDAC. The scale and nature of this impact is not yet clear, but could be better understood by further scenario modelling, particularly once the design and performance of MRLVC is better understood. The impact of MRLVC not being implemented as originally envisaged may also need to be considered.

2. Impact of intraday trading (relevant question: 3)

As stated in the report, as intermittency becomes an increasing determinant of price and flows between connected markets, we might expect to see some value shift from day-ahead to intraday market timeframes. In these circumstances, intraday trading can indeed improve interconnector usage and release socio-economic gains. Such ID flows are, however, likely to have limited impact on the price at which most electricity is traded in GB (at least while day ahead and forward trading dominates), and consequently of modest impact on the overall distribution of surplus between producers and consumers.

Overall net welfare depends on whether the optimal generation across the interconnected markets actually runs. The ability of intraday markets to correct for inefficiencies in the day ahead allocation depends on the ability of generation (and demand) to respond flexibly, including the depth in the intraday markets and the technical limits on changing interconnector flows.

Even with efficient ID markets, the redistribution effects of inefficient day ahead allocation will not be fully rectified. Redistribution of surplus from producers to consumers in the importing market (due to decreased prices) – and vice versa in the exporting market – will be significantly limited due to the relative size of the ID markets compared to day ahead. In any case, for technical reasons, it is likely to be problematic to extend MRLVC to the intraday timeframe (this was not agreed in the Trade and Cooperation Agreement).

In addition, interconnector revenue is likely to be less overall. This is based on historical observations of weaker price spreads (in implicit auctions) and lower prices for capacity (in explicit auctions) in ID markets compared to the day ahead.

In summary, the socio-economic impact of ID trading is likely to remain modest, with weak welfare redistribution.