

Comments for paper on market couplings

The following is a collected set of comments on the paper; *Staff Paper on Market Coupling*, published by Central Electricity Regulatory Authority 21st of August. The comments are formulated by Morten Pindstrup Andersen (Energinet) and Khem Gautam (INDEP) and prepared and reviewed by Andreas Sejr Andersen (DEA)

Section 5.2: Does the current Indian power market scenario form a compelling case for market coupling?

Question 5.2.5:

“Under such a scenario what significant benefits can be derived in terms of uniform price discovery, and which model suits best for India?”

Market coupling ensures pooling of all liquidity in a given timeframe and market time unit. This ensures the most efficient dispatch, thus there is no doubt that a benefit is obtained. Given the large difference of market parties trading on the three power exchanges there is a potential for an evening out when applying market coupling, as the current situation, as also mentioned in the paper, can lead to very inefficient outcomes on the two small power exchanges or even *non-clearings* due to the low liquidity. This will keep market parties away from the two other exchanges as the market outcome has a much more significant impact than the size of fees. Thus, market coupling can enable true competition between the power exchanges as envisioned by the Regulatory Commission when allowing more power exchanges.

Section 5.3: Effect of coupling on technological innovation and competition:

The idea of the two presented schools of thought is understood. However, a point of consideration arises: given that the MCO function within market coupling operates as a monopoly function, the prospect arises that if this responsibility were entrusted to a third party, it might potentially be less inhibitive for the development of new bidding structures and formats. Thus, there would be less distortion in the aims of market parties and the MCO function, which must have a goal of large participation to be labelled a success. A way of obtaining large participation is to keep developing the algorithm to accommodate the wishes of the market parties, which will be expressed through the power exchanges who will likely have a consumer forum or something like that.

Question 5.3.2:

“Therefore, given the underlying economic principle of maximizing social welfare and optimal corridor utilization, which argument fits better in the Indian context?”

Considering the comment on section 5.3, the argument in the first school of thought may not always be deemed valid, particularly when the MCO function is not one of the power exchanges but a third party. Consequently, adherence to the second school of thought is warranted, as it posits that market coupling offers substantial benefits. If bidding structures are lacking or requested, the interest of the MCO function and power exchanges lies in ensuring its development to enhance participation on the power exchanges.

Section 5.4: Who shall be the Market Coupling Operator?

Question 5.4.1:

“Given these requirements, what should be the ideal institutional/ structural design for market coupling and the extent of autonomy of various parties in such a design?”

It is suggested that opting for an external MCO function¹ would be the most advantageous approach to facilitate genuine competition among power exchanges. The simultaneous demand for power exchanges to engage in both competition and cooperation is considered a challenging effort to

¹ The external MCO function is “To carry out the optimization to set the price of electricity flows and determine who sells and buys how much”. This is a monopoly function.

attempt. In this perspective, it can be argued that a mistake was made in Europe by not establishing an external MCO function from the outset of market coupling implementation.

section 5.5: Which Algorithm should be adopted for a coupled market?

Question 5.5.2:

Given these realities,

- *Would it be advisable to select a suitable algorithm out of the three existing algorithms, or should a new algorithm be designed jointly by the exchanges/ by the market coupling operator, like the PCR EUPHEMIA (acronym of Pan-European Hybrid Electricity Market Integration Algorithm) being used to calculate day-ahead electricity prices across Europe.*
- *To be able to match the bids received on the three exchanges, uniformity of bid types & relevant parameters is required. Would standardizing/ harmonising the bid types in DAM & RTM across the exchanges address the issue? If so, which bid types would be suitable for the various buyers and sellers?*

If one algorithm is immensely superior then it could potentially be chosen as starting point for a new common algorithm that is then adjusted to include what is necessary. It will, most likely, also depend on whether the MCO is a third party or the power exchanges taking turns.

Suppose one of the existing algorithms is chosen as a starting point. In that case, it should be mandatory that bid types used by more than one market party from the other algorithms are also introduced in the selected algorithm. Otherwise, there is a risk that the additional power exchanges will close if their bid types can no longer be used.

The understanding that it is imperative to harmonize bid types may not be universally essential, as a well-designed algorithm should have the capability to accommodate various bid types. Consequently, it might be more sensible to consider the elimination of certain bid forms that are infrequently utilized from the outset. Subsequently, the focus could shift towards gradual additions while establishing an objective method for assessing whether the adoption of a new bidding format justifies the potential increase in computational time costs.

Section 5.6: How will the clearing & settlement be carried out?

Questions 5.6.4:

Thus, in the scenario of a coupled market,

- *While the power exchanges will be the counterparty to the market participants, would the Market Coupling Operator act as a counterparty to the power exchanges with regard to settlement rights and obligations?*
- *Would it be advisable to allow the Market Coupling Operator to charge transaction fees from the power exchanges, which in turn charge related transaction fees from the market participants?*
- *What should the grievance handling framework be?*

The MCO function should not be a function to make a profit, but a cost-based function to keep it as limited and focused in scope as possible. Thus the financial transactions between power exchanges and the MCO should only be cost recovery. The MCO function just calculates a result based on orderbooks from power exchanges, thus there is nothing to be counterparty for towards the power exchanges. The power exchanges clears and settles the market, thus they are handling *all* the money for trading.

It is not advised to make the payments between power exchanges and MCO function fee based, but instead budget and project based. Normal operation is based on budgets and costs are split between power exchanges. This shall be a regulated process overseen by the Regulatory Commission, who will also handle any disputes on the budget. Projects are used to pay for development, so all new functionalities are based on a request for change, to which the MCO creates a project with a cost, which is then paid by the requester, which can be one or more power exchange and potentially the system operator or the Regulatory Commission.

As the MCO function is a clear monopoly function then it needs to be overseen by the Regulatory Commission, thus it would be natural for the Regulatory Commission to handle any grievances.

Section 5.7: Changes in the settlement process

Question 5.7.1:

Traders are already collecting bids from clients, submitting bids to exchanges, and doing the clearing and settlement. In fact, security maintained by traders is approximately double the cost of power purchased, i.e. maintain a weekly average margin equivalent to power purchased while maintaining a sufficient margin for net cleared volume for tomorrow. Under such a scenario, should traders be allowed to submit their bids directly to the market coupler to reduce the cost of power for trader clients, as the clients are presently paying margins to the trader and also bearing fees and margins of exchange?

A simple answer would be *no*.

The slightly longer answer is that authorities need clear roles and responsibilities to ensure a properly functioning market. If authorities start making loopholes then it will be hard to predict what will happen, because actors can be very creative. In Europe we have the role of Balance Responsible Parties (BRP) who are the only ones who are allowed to do physical trades. All generators and suppliers need to either be or contract a BRP to act on their behalf. The market coupling will be a very sensitive process based on well-executed procedures between the power exchanges and the MCO function to ensure that it always works. If regulators increase the number of parties the MCO function needs to engage with it will lead to an increase in the risk of mistakes and failures that will crash the market coupling. It is seen as imperative that all traders trade on the power exchanges who then creates the order-books that the MCO function merges from the three power exchanges and use for the price discovery process. All results are delivered back to the power exchanges who can then do the clearing with its clients and settlement.

Section 5.8: In which market segment should the coupling be introduced first?

Question 5.8.6:

Considering the above, is it imperative that market coupling be introduced in collective transactions segment to begin with?

It would be natural to start where the volume is biggest and where there is a uniform market clearing.

Some note on Transitioning

All the power exchanges in Europe were commonly responsible for developing a new algorithm (Euphemia) because the European network code mandated the development of such a common algorithm. Developing such common algorithm requires time.

Suppose one particular algorithm is chosen for Market coupling in India. In this case, we believe the external MCO function (see footnote 1) should be separated into a monopoly that does not generate profit but only has its cost covered by the power exchanges. It can then be considered if a one-off payment shall be made to the Power exchange that owned the algorithm if they have not yet written off the investment of the algorithm development. Market coupling means that some existing structures have to change, which is one of the most significant changes that should ideally be made.

Best regards

Morten Pindstrup Andersen, *Energinet*
Khem Gautam, *Indian Danish Energy Partnership Programme*
Andreas Sejr Andersen, *Danish Energy Agency*