

Future Thinking – Empowering the Market

**NORD
POOL**

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With some justification, Nord Pool can lay claim to having invented the modern power exchange. We were the first to set up cross-border power trading, initially in the Nordic region – then expanding to establish what would become the European target model, the blueprint for the development of a single European power market.

Historically our day-ahead and intraday power market model has worked well. However, nothing lasts forever, and today our focus is on what well-functioning power markets need to look like in the future. Power exchanges, system operators, regulators and our customers, all recognise the need to develop the next generation of market design to manage a changing world, driven by the ‘green shift’ and security of supply.

Managing the ‘green shift’

Though our focus today is on future market development, we still need to take account of the purpose of a well-functioning power exchange. For Nord Pool, that has not changed fundamentally. We are here to provide ease of access for market participants and to facilitate the efficient use of power production assets and consumption, both locally and across borders, to the benefit of wider society. Our main objective “maximizing social welfare” still stands as the ultimate goal.

What has changed is that the agenda for the energy industry is being set by climate change, regulatory and security factors. The effort to ensure security of supply, while at the same time moving to a low carbon economy, will undoubtedly shape how the power market will look in the future.

There are targets for cutting emissions, for example – requirements placed on our customers that the market needs to accommodate. That demands greater input from, and influence by, renewable production, with its particular production characteristics and intermittent nature. Consequently, the market needs to ensure that it gives renewable producers easy and efficient access.

The power system across Europe is already challenged by the new power mix. System operators are experiencing increasing challenges with system stability, reflected in lower frequency quality, higher risk of blackouts and rising costs. Power market design needs to evolve both to enable an accelerating introduction of renewables and at the same time to secure the stability of the power system.

Growing complexity hinders efficiency

Nord Pool’s Customer Advisory Board is an ‘ear to the ground’ in the market to let us understand what is front of mind for customers.

The feedback Nord Pool has received through our Customer Advisory Board has been both ‘vertical’ and ‘horizontal’. ‘Vertical’ in the sense of the complex multiplicity of overlapping markets and products with different requirements that confront market participants, who must constantly choose between them. On this ‘vertical’ level the set up must be simpler and more transparent to, for example, allow renewables or smaller asset owners to participate in all markets in a non-discriminatory manner.

The ‘horizontal’ feedback is all about harmonisation across jurisdictions. National specifics related to markets, products, processes or technology increase both complexity and cost for multi-national companies. By these not being aligned, the barriers to trading cross-border increase, ultimately affecting the cost of electricity.

Our customers would like to see harmonised markets across geographies. They believe this would both increase liquidity in the markets and the efficiency of dispatch, in turn lowering the cost of electricity without endangering security of supply.

To get insight and complement the views expressed by our Customer Advisory Board, Nord Pool has been visiting the control rooms of customers outside our ‘usual’ territory of day-ahead and intraday trading, to try to gain a better appreciation of the whole value chain from a market participant perspective.

The picture we see validates the ‘vertical’ and ‘horizontal’ feedback from our Customer Advisory Board. The national capacity and balancing markets all work differently and are designed to address individual separate national needs. We see a lack of a holistic understanding of the operational challenges faced by market participants in both a national and regional context. The need they have to manage their assets in a simple and efficient way is simply not fully acknowledged. One example of this is that they are not able to support the power system balance by trading imbalance positions with each other close to delivery.

These are daily challenges for our customers but should be just as much of a headache for system operators, who cannot get the best balancing or capacity orders in their market mechanisms. Additionally, significant system operator effort is needed to develop, maintain and operate multiple markets. Both challenges increase the cost of operating the power system and in the end lead to higher costs for all, including end consumers.

Based on the sheer amount of consultations we are participating in related to future market design, it seems all stakeholders agree on the challenges ahead. The question is; how to address these through power market design?

It seems the most prominent challenges highlighted by the Nord Pool Customer Advisory Board, market participants and system operators relate to the timespan close to when power is physically delivered.

Solving problems close to delivery

Nord Pool sees three key principles as central to the future design of markets where trading close to delivery is concerned:

- 1. Market design should be based on both the nature of business conducted by the producers and consumers of electricity, as well as the need for security of supply for system operators**
- 2. Market design should trust and enable producers and consumers to be the primary resolvers of power system balance**
- 3. Markets should be designed to lower barriers of entry and maximise liquidity by providing simple access as well as harmonised rules and products over large geographic areas**

Taking these principles as the starting point, Nord Pool proposes a ‘customer-centric design’ – one which will make it possible to attract market participants and assets, allowing future challenges to be resolved in an economically and technically efficient way.

Within that we believe that the market needs to be both enabled and properly incentivised to resolve power system balancing demands through market-based mechanisms right up until power is physically delivered. This, in our opinion, would allow system operators to focus on handling any unexpected ‘emergencies’ beyond what the market can be designed to manage. In a well-functioning market, the need for balancing actions should be small.

On a purely practical level the market setup will need to move in a direction whereby supply/demand assets can be traded simultaneously for multiple purposes in either one single, or in tightly integrated, markets. One way of achieving this would be to have final power balancing activation in the intraday market timeframe in parallel with market participants trading their positions with each other. This would provide for a liquid short-term market empowering market participants and system operators with access to all available assets for balancing purposes.

In addition to increased efficiency, we believe such a market design would increase both simplicity and transparency as all short-term power trading would be performed in one open marketplace. As an alternative, or interim, solution, different market venues and products could be bridged and integrated by, for example, power exchanges to simplify market access.

Flexibility providers and local markets, such as NODES (the flexibility market run by Nord Pool and Agder Energi), need to be incorporated within – or at least integrated with – existing short-term wholesale markets to concentrate liquidity and enable truly efficient use of supply/demand assets. Delivery of flexibility will impact delivery of energy and vice versa.

We look forward to a time when power market participants across Europe resolve power system balance and local bottlenecks by trading up-to-delivery with each other, with ever decreasing need for balancing and redispatch.

Nord Pool’s vision is one of cross-border intraday trading extended up-to-delivery, with local flexibility identified and valued and system operators – where needed – able to purchase their balancing energy needs from the open liquid market.

ABOUT NORD POOL Nord Pool, Europe’s leading power market, delivers efficient, simple and secure trading across Europe. The company offers day-ahead and intraday trading, clearing and settlement to customers regardless of size or location. Today 360 companies from 20 countries trade on Nord Pool’s markets in the Nordic and Baltic regions, Germany, France, The Netherlands, Belgium, Austria and the UK. Nord Pool is a Nominated Electricity Market Operator (NEMO) in 15 European countries, while also servicing power markets in Croatia and Bulgaria. In 2018 Nord Pool had a total turnover of 524 TWh traded power.