EPEX SPOT response to Nett i Tide report

Introduction

Thank you for the opportunity to provide input to this consultation regarding the Nett i Tide report.

EPEX SPOT (EPEX) operates a power exchange in Great Britain, Central Western Europe, the Nordic countries and Poland, providing a market place for companies to trade electricity. EPEX SPOT facilitates trading in a transparent manner, according to public rules and publicizes prices which serve as a benchmark for the wholesale and retail markets, as well as for the OTC market. EPEX SPOT provides a liquid market place for producers, suppliers, system operators and industrial consumers, to fulfil their energy requirements in short term power.

Most can agree that the current grid – and market situation in Norway is not ideal. Congestions, lasting high prices, large price differences between bidding zones and low liquidity are all unsustainable situations and should each be taken very seriously. The focus of the Nett i Tide report was on the grid. However, unfortunately suggestions were made far beyond its scope and into the core of market design. Oslo Economics was requested to provide input. Surprisingly, their recommendation not to implement nodal pricing was simply ignored – with no specific reasoning as to why.

More concerning, is the premature conclusion that nodal pricing should/could be thé solution, before even a simple assessment of the problems in the market has been evaluated. EPEX cannot emphasize enough that an ill-designed new market design can do more damage than help, especially in the uncertain times we find ourselves in now. Therefore, EPEX has included a list of issues which must be addressed before any conclusion can/should be made.

EPEX acknowledge that some changes in market design could ease some parts of grid challenges and have included some suggestions in this paper.

Conclusion and key messages

- In general, the report makes sound suggestions which could have significant positive effect over a relative short time span.
- EPEX is **surprised by the decision to make radical proposals to the market design before having conducted any type of market in depth market analysis.** It is also against the conclusion of Oslo Economics, which state that 'Nodal pricing does not solve the structural challenges'.
- **Without a proper cost benefit analysis, it is simply not possible to make a statement that nodal pricing will be more efficient and a better socioeconomic solution compared to the one Norway has today -or could have, with adjustments to the current design**.
    - **Suggestions for improvements** to the market design are provided, including locational price signals, which in EPEX's view would much better address the concerns mentioned in the Nett i tide report.
    - In order to carefully assess the option to implement nodal pricing, EPEX has added a **list of critical issues** relevant to assess whether nodal pricing could offer a better solution compared to zonal pricing.
- Strømnettutvalget recommends that a further analysis should 'include' impacts on the market. It is our view that **impacts on the market should not only be included in such a report, it should be the leading factor when considering changing the fundamental market structure.**
- In practice, nodal pricing adds an additional layer of complexity and uncertainty that market participants will need to face and hedge against, without providing further improvements to grid investments and connection issues already tackled by other proposed measures.
- Furthermore, our main concerns with nodal pricing is (where possible) decreasing liquidity in the Norwegian market as well as an elimination of investment incentive for the grid owner – as a result **increasing, not reducing, the very problems this report is intended to solve**.
- Finally, nodal pricing would exponentially increase the mixed incentives of the TSO/Statnett to create/keep congestion in order to earn congestion income, instead of investing to lower congestion which would create social welfare.
- This topic is of most importance to EPEX and we are therefore very interested in **further support** by providing information and participate in workshops and/or discussions. Please feel welcome to contact us for this.

Main shortcomings of Oslo Economics assessment of price signals relating to market price

Oslo Economics' analysis needs more (correct) input. The intention is not to attack this report, therefore only a few selected examples in order to emphasize our point.

- Theoretic idealism never seen in practice: Many conclusions are drawn from scientific papers from the 80's and 90's.
- Biased choice of scope for the 'price signals in practice' chapter. The scope is limited to Sweden, Denmark, Finland and UK. UK is a country with a lot of specific challenges and difficult to compare to the Nordic situation. Sweden and Denmark being in the same situation as Norway, with many price zones, similar regulatory frameworks, as well as grid challenges will show similar results. A more relevant scope of the price signals in practice would be to choose a selection of countries with one bidding zone. This could result in a completely different solution, namely that Norway could benefit from less bidding zones instead of more. No such analysis has been made.

- Factually wrong: It is stated that 'UK has its own stock exchange, but is part of the same common European market as the Nordic countries are'. This is incorrect. First of all, UK does not have its own power exchange. Second of all, Brexit is realized and therefore UK lost parts of the direct access to the internal EU market and is not part of the pan-EU day-ahead market coupling anymore.

Nodal pricing is the perfect solution on paper, but that is also where it ends
Unfortunately, Strømnettutvalget analysis was a quick and theoretical analysis, lacking links to relevant practical implementation and general experience in the energy market.

Liquidity for example is not properly addressed. In many cases, with nodal pricing you can risk not having anyone to trade with on the same node. It is great to have a theoretically perfect price, but it is useless if you do not have anyone willing to trade for that price in your small node area. Strømnettutvalget fails to consider the basic practical implications that unless there are trades using the price, it has no value.

Reflections on: '*4.4.4 More bidding zones or node prices*
It is a goal that the tariffs should, as far as possible reflect the underlying cost drivers in the grid. But the tariffs only provide an approximation of the actual costs of network losses and bottleneck handling. Nodal prices in comparison, give the perfect price signals in the short term, where all actors face the socio-economic cost of increasing consumption or production.' Which implications will this have on prices? Will the south of Norway get even higher prices? In that case, would that be fair to the consumers who have invested there? How many buyers and sellers are there in each node and what are their profiles? How will it affect them? None of these fundamental welfare and redistributive effects questions are addressed.
Moreover in practice, nodal prices do not deliver a perfect price signal in the short term and are more influenced by uncertainties than zonal prices. Indeed there are still uncertainties until delivery (be it on the load, production, or network) that will more heavily impact nodal prices than a zonal price, where those uncertainties are watered down. Also, to be 'perfect', all dynamic constraints of production assets (storage, ramps etc.) would need to be reflected at the same time as all network constraints.

Under recommendations: *'4.5.4 More bidding areas or node prices*
The committee recommends that Statnett study several bid areas, within the framework of current regulations. Impacts on the market should be included in the assessment.' It is our view that impacts on the market should not only be included in the report, it should be the leading factor in the report. From the current situation we find ourselves in, it should be clear that the energy market has a significant impact on society. If this process becomes limited to a grid analysis which concludes to turn the market design upside down in the middle of a crisis, without doing its homework, this could end up being very damaging to society.

Oslo Economics concludes that '*it appears more appropriate to consider changes in price signals which directly address the two challenges - namely allocation of rights and demand for capacity. Such price signals can be entered and adjusted without changing the established market mechanisms and general organization of the market*.' EPEX is surprised that, without any specific reasoning, Strømnettutvalget simply ignores the recommendation of the party they hired to do the research.

The main issues which must be addressed before a proper evaluation of nodal pricing is possible

Liquidity: As several of the Nordic markets experience challenges with liquidity, a thorough analysis should be made on how an introduction of nodal pricing is expected to effect liquidity. Furthermore, specific suggestions should be made as to how to ensure liquidity. Suggestion EPEX has seen so far, all includes some kind of administrative aggregation of nodes, which in turn becomes a more complex version of larger bidding zones. Attention to the details is necessary on this important topic.

Impacts on all markets: implementing short-term nodal markets will have an impact throughout all other markets (EPADs, possible introduction of FTRs etc.). This question is highly linked to the topic of liquidity and should be thoroughly looked in to.

Cost-benefit analysis: One thing parties on both sides of this discussion agree on is that introducing nodal pricing will be expensive. In order to justify such a large investment a well-documented cost benefit analysis should be in place, comparing several potential solutions, breaking down impacts on all stakeholder categories and tracking redistributive effects.

A high level priority list: As there are many large changes which should be implemented in the electricity sector at the moment (CEP, CACM, DSF NC) resources are scarce. Introducing nodal pricing would be a very large project. Therefore, a priority list should be made to clarify which other of the large projects should be delayed in order to facilitate a potential introduction of nodal pricing.

Investment climate: Changing the rules under which investors have signed off projects will harm investments already made and, maybe more importantly, deter investors from doing anything further until the rules are clarified. There is a risk that investors would prefer more stable markets in the EU. Rules will need to be established around existing support mechanisms but beyond that what markets are expected to evolve to facilitate hedging? To determine the impact on investment the further analysis should explain the value proposition to organizations looking to invest, including TSO, DSOs, producers, large consumers etc.

Distribution Grids**:** The classical nodal pricing systems only includes the transmission grid. The energy transition happens in the distribution grid and it is therefore essential to include them.

Demand Side Response: Demand side response will often also not be included. As demand side response providers provide a significant amount of the much needed flexibility, they should be included.

Interconnectors:

- **Regulation need to address the clear mixed incentives of grid owners and operators.** Oslo Economics are rightfully addressing the mixed incentives of the grid operator: having higher income on congestion income when there is limited capacity to transport than when there is sufficient transport capacity. Loosely translated: '*If an operator has transmission capacity between two nodes, it will be able to buy in the node with a low price and sell in the node with the higher price. Ownership of transmission capacity thus has an economic value. However, the bottleneck income is eliminated by sufficient capacity. The party which controls the use of the grid, should therefore not have interests in creating congestion revenues.*' Even though Statnett has a maximum earning level, it will clearly be an incentive not to reject this income. Looking at both internal as well as external congestion income of Statnett this year until June alone is 855.8 M EUR. Setting user grid tarrif to 0 still does not compensate sufficiently to the end users. It makes a crystal clear incentive to keep congestion and not investing in cables to increase capacity which would lower the price differences

and creating better social welfare. Introducing Nodal pricing would exponentially increase the earning potential of Statnett on congestion and thereby increasing the incentive problem we have under the current market design.
- Clear modelling of interconnectors. It is unclear how nodal pricing is compatible with the commitments thorough EEA. The efficient use of the interconnectors is critical to realize the benefits that interconnectors have in terms of making the Norwegian system more robust and flexible. Questions which should at least be answered are: Is it compatible with SDAC and the UK? What are the modelling assumptions around interconnections?
- Clear explanation on how the markets will interact in case Norway would introduce nodal pricing.

Concrete modelling of nodal pricing market design

Before a thorough decision can be made on whether nodal pricing could be a better solution compared to the zonal market design, a concrete nodal pricing design should be on the table to be discussed. Experience shows that when it comes to market design, the devil is in the details. Without the details, no thorough assessment and definitely a thorough decision can be made.

Net 0: Squeezing the entire system complexity that is driven by decentralization into one single algorithm that handles the grids, asset and market complexity: will it be fit for the Net zero future? This needs a separate analysis on its own.

Central dispatch vs self-scheduling of resources: Although nodal pricing schemes are associated with central dispatch, they also allow self-scheduling of resources. Pro-s and con's of both should be carefully evaluated.

Evolution needed in the current market design – some suggestions

Tackling grid congestions and unlocking the potential of demand-side flexibility are key challenges of the energy transition. Due to the development of renewable energies, such congestions have been rising on both the transmission and distribution levels.

Developing local flexibility markets on the distribution level, incorporating coordination with the TSO to manage the impact on the transmission network, can create an opportunity to promote DSR, prosumers and distributed connected generation without resorting to a full market redesign.

Local flexibility markets at the distribution level can complement grid development through tackling the challenge of grid congestions by making best use of system flexibilities. Flexibility markets centralize local flexibility offerings. They allow network operators to resolve physical congestions and flexibility providers benefit from an additional revenue opportunity without having to move towards a central dispatch system which is rigid, administrative/bureaucratic/monopolistic and characterized by inertia.

Nordic Energy Research has recently done an excellent report on local flexibility "Distributed Flexibility – lessons learned in the Nordics", which addresses current challenges and suggests solutions regarding how to foster (1) the development of flexibility resources and (2) the efficient procurement of flexibility by System Operators in today's market design.

Final remarks
EPEX again thank you for this opportunity to provide our feedback. These are important topics which must be thoroughly analysed and understood before taking decisions. For any further questions or comments, please do not hestitae to contact us.

Kind regards,
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