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## EPEX SPOT answer to the consultation regarding

# ‘Fremtidens kapacitetsmekanism för att säkerställa resurstillräcklighet på elmarknaden’

***EPEX SPOT welcomes the initiative by Svenska Kraftnät (SvK) and also recognises the need for a capacity market. While we support large parts of the current design, it should be pointed out that the current design is very high over and the details are of crucial importance. Therefore, this paper is mainly focused on attention points to be aware of when going into the details.***

### Summary

EPEX SPOT welcomes the proposal of SvK.

EPEX SPOT has long experience, both from discussions around the design of Capacity Remuneration Mechanisms (CRMs) in different countries to operating the primary auction of the French capacity guarantees for RTE.

From this experience, we have learned valuable lessons which we would like to share in this paper. Some of these might seem obvious. In practice however, we have seen that they can easily be forgotten.

The proposal rightfully frequently refers to the Belgian mechanism. We would like to point out that Belgian CRM auction have been held without contracting any capacity at all at all, such as the Y-4 auction held in October 2022. There are several reasons for this. One being the continuous discussions around the prolongation of the nuclear plants which considerably lowers the need for new capacity in the auction. However, it is undeniable that the Belgian CRM also has several serious design flaws keeping existing capacities from bidding in. This is important to be aware of and hopefully learn from. The most important attention points are elaborated in this paper.

From our experience, we can firstly say that much discussion from many angles can be expected. Therefore, it is valuable to have some fundamental principles in place – which are then safeguarded along the way of designing this mechanism. Some suggestions elaborated

in this paper are 1) The end goal should always take priority over mean, 2) The complete design should be viewed as one, 3) Inclusive, technologically neutral and equal playing field should be ensured, 4) Transparency and simplicity should be preferred where possible. The final, perhaps the most important principle, 5) It should be market based.

Secondly, EPEX SPOT mentions specific attention points regarding content which should not be underestimated. The importance of properly defining 1) the strike price, 2) the reference price, 3) the secondary market and 4) availability during scarcity for different technologies. Furthermore, 5) the importance of a stop-loss clause, 6) defining the requirement for longer term contracts as opposed to the standard contracts, 7) advantages of pay as cleared , and 8) single-round sealed bid auction vs multi-round descending clock auction.

Thirdly, regarding the process of the auction: EPEX SPOT would like to emphasise the advantages of having an experienced, professional and neutral party operating the auction, separately from the TSO. In addition, we have some questions regarding the transitional solution.

Overall, it is worth mentioning that EPEX SPOT has the view that a decentralized CRM model would offer the best fit to the challenges ahead for the Swedish market. Therefore, EPEX SPOT would encourage that a decentralized model would be included in a further design analysis of the CRM. This being said, EPEX SPOT is also supporting the centralized model proposed.

Finally, having a common European direction regarding CRM design would best facilitate competition between market participants in different countries, increasing efficiency and overall benefits. Harmonized rules in the Energy Only Market (EOM) has greatly benefitted not only the market, but the overall social welfare of the countries participating. EPEX SPOT has facilitated harmonization of European markets for many years and we are happy to support and promote a Swedish CRM solution in a European context.

## Introduction

EPEX SPOT would like to thank the Ministry of Climate and Business Energy Unit for the opportunity to respond to the consultation regarding Fremtidens kapacitetsmekanism för att säkerställa resurstillräcklighet på elmarknaden. Due to language barriers, we hope that our answer will be accepted in English. In case it is not, please do let us know, and we will have it translated.

## Who we are and why we are well positioned to contribute

EPEX SPOT is one of the Spot power exchanges in the European market with core business in Central Western Europe, the Great Britain and the Nordic countries. In addition, EPEX SPOT is expanding its business, investing in products and services as we see the needs of the market change to best facilitate the energy transition. GO market and Local Flex trading are examples of building new markets and market-based sourcing.

Relevant to this consultation is the French capacity guarantees for RTE. EEX, (EPEX SPOT's parent company) developed and now operates an ad-hoc electronic registry solution for RTE which enables capacity guarantee certificates to be booked and transferred between market participants. Since 2015, the service offered by EEX to RTE has allowed market participants to monitor their capacity balance accounts and transfer certificates between each other. EPEX SPOT ran the first primary auction for certificates in December 2016. The auction, cleared by ECC, is connected to the registry to perform the delivery of the capacity guarantees.

Therefore, EPEX SPOT is well positioned to contribute to the debate on how a Capacity Remuneration Mechanism (CRM) could best be implemented in Sweden.

## The need for a capacity remuneration mechanism (CRM) and the choice of reliability options

Svenska Kraftnät's assessment of the risk of power shortages during the winter of 2022 has shifted from a low risk to a substantial risk, eventually (after considering options such as strategic reserve) resulting in the proposal to introduce reliability options in Sweden. EPEX SPOT supports this conclusion of SvK that a capacity remuneration mechanism is necessary and welcomes the proposal of reliability options. EPEX SPOT shares the view that SvK choice of reliability options could be the choice which will be the most suitable to this particular problem compared to other measures. It is essential however, that the reliability options are designed in a way which will avoid unjustified adverse effects on competition, trade and balancing. Therefore, EPEX SPOT will provide advice for how to avoid this, based on the

experience from both the markets itself, but also from the design and introduction of other CRMs.

### **Fundamental principles which need to be in place**

From experience around CRM the design process, lengthy discussions on a detailed level can be expected. EPEX SPOT would therefore recommend to first agree on fundamental principles which should always be ensured. These fundamental principles can then serve as a guiding compass for ensuring the end goal, lowering the risk of overly focusing on the mean. We would like to propose a few suggestions, which may sound like a given, but from experience we see that this is not always the case.

#### 1) The end goal should always take priority over mean

When making changes to any parameter, the focus should always be on the effect it has on the overall goal of the mechanism, which is to ensure security of supply as efficiently as possible for the Swedish market. When any alternative is presented, it should clearly show how it will better serve this purpose compared to the current design.

#### 2) The complete design should be viewed as one

When changing a small parameter, the total investment picture can change and therefore this will need to be addressed for each change. A typical example could be that increasing obligations could result in increasing risk for investors which will have to be included in the bid, increasing the cost for the CRM as a whole, decreasing the efficiency of the CRM.

#### 3) Inclusive, technologically neutral, equal playing field

All relevant actors should have the same opportunity to participate in the auction and to compete regardless of technology, size etc. In order to maximize the market's opportunity to solve the problem as efficiently as possible and to allow for innovative solutions, the CRM design should leave the conditions for the technical solution as open as possible. It should be technologically neutral, meaning any technology should be allowed to participate, provided it meets fundamental criteria. A practical example could be how to facilitate the energy transition. Here, it could be easy for writers to simply exclude certain types of technologies or to provide certain advantages to others. EPEX SPOT would like to emphasise that simply setting a universal standard (e.g. maximum carbon emissions, reliability requirements, permitting etc.) would leave the market to do what it does best: find innovative ways to meet these universal standards as efficiently as possible. This will allow true innovation and would reap the benefit of having a liberalized market. Restricting certain technologies by default or promoting others, would have the opposite effect.

#### 4) Transparency and simplicity, where possible

Reliability Options are simple by principle, but can become very complex in the details of implementation. Simplicity has the advantage of facilitating transparency and trust and attracting investments from newcomers. Some examples are having the same standards for all participants when it comes to obligations and benefits. Having one strike price instead of many, one definition of availability for all participants etc.

#### 5) Market based

The focus should be on designing a CRM which would facilitate a good market support by being inviting for many parties, technologies etc to participate and compete – leading to an efficient result – where the best will win. Having focus on the opposite – adding layers of limitations, limiting participants ability to respond, would lower participation, lower innovation and also lower the effectiveness of the mechanism. Some examples from the Belgian CRM are the bid caps depending on existing vs new capacity (which requires cost thresholds which in turn incentivizes expensive investments rather than lowering costs), layered with contract length of existing vs new capacity, layered with restrictions to secondary market to the point where the TSO has to approve every individual trade manually.

### **Attention points regarding content**

#### 1) Properly defining the strike price of the options

A too low strike price would have several negative consequences which should not be underestimated. One consequence is the increased risk (chance and impact) of the payback obligation. A strict restriction of income will have to be priced into the business case of investors and thereby also the bid in the auction. This leads to overall higher cost of sourcing the same capacity as with a higher strike price. Another potential consequence of a too low strike price is it lowering the security of supply in practice. A producer who faces pay back obligations above 180E/MWh might choose not to offer its capacity above 180E/MWh, and rather take the unavailability penalty, which undermines security of supply. During the design of the Belgian CRM, PWC did a study, including the strike price avoiding so called 'windfall profits' while also allowing technologies to participate. Even though the references could be somewhat outdated as the study is now a few years old, it does provide a good view on the topic.

Having one strike price (as opposed to several) should also not be underestimated. Having several strike prices, depending for example on technology, is risky. The chance of getting the strike prices right (no technologies will be disproportionately advantaged or disadvantaged) is very low, introducing an unequal playing field – providing unfair advantages to technologies

which might not be competitive in a fair system. It also lowers the overall transparency and increases complexity throughout the system.

## 2) Properly defining the reference price

When defining the reference price, its effect on the futures electricity market should be taken into account. A producer could today sell its production for future years in order to ensure stable pricing. However, if the reference price in the pay-back obligation is only defined in the spot market – the effect of hedging becomes additional risk instead of limiting. This topic is of particular importance in Sweden, where the futures market is already struggling for quite some time and cannot afford to lose more volume.

## 3) Properly defining the secondary market

As SvK correctly points out, a secondary market is essential for participants to reduce their risks with a long term commitment. It allows them to transfer capacity obligations in cases of lower – or higher availability than expected, for whatever reason.

EPEX SPOT would like to emphasize the importance of having a secondary market working in practice – not limited to a theoretical option which is nearly impossible to use when needed. In order to ensure a secondary market which is liquid enough to provide the actual lowering of risk, it should be properly defined in advance and parties should be screened and approved to operate in this market. Experience from the English CRM shows that the secondary market is wearily used. The vast paperwork and long approval times for each individual trade makes the secondary market less valuable for market participants as they cannot count on it when they need it. For the Belgian mechanism, the same outcome is expected.

We would strongly advise against the Belgian solution to the secondary market, which has put the TSO in charge of approving deals after the transactions are made. This is in no way replacing a liquid secondary market and yet another design flaw where there is too much emphasis on limiting participants from acting according to need and not on the end goal of the mechanism. It is increasing overall system costs as it adds yet another restriction to the system.

As EPEX SPOT has long experience with setting up markets, we are well positioned to advise on design of a secondary market, as further details of the primary CRM is decided upon. We would like to invite to more discussion on this topic further in the process. Here, also the need for a design well in advance of the main auction should be emphasized.

#### 4) Ensuring availability during scarcity

The way reliability options are defined in the proposal, it would seem that the pay-back obligation would be sufficient as an availability incentive in the Nordic setting. Adding a penalty structure for unavailability would have a few disadvantages such as increasing complexity both with implementing as well as monitoring the system. It also introduces risk of indirect capacity withholding in extreme scarcity situations where the penalty could be a lower cost than a pay-back obligation (especially if the production is sold in the futures market and the reference price for the pay-back obligation is in the spot market). Taking advantage of the price formation to decide scarcity situations, is a simple but effective structure which minimizes the impact on the Electricity Only Market (EOM).

One element which should be taken into account though is planned maintenance. During planned maintenance (also in need of being properly defined), producers should not be exposed to the pay-back obligations unless a proper secondary market can be guaranteed. A functioning secondary market would enable participants to sell the obligation during planned maintenance.

A second element to be taken into account with this design is how RES should be exposed to the pay-back obligation in cases of less wind or radiation. Also batteries, which might not be able to be available during longer timeframes of scarcity needs to be taken into account.

The availability factor introduced in the proposal is a good measure to account for the added value of different capacities on security of supply.

#### 5) Importance of a stop-loss clause

For all investment decisions, there needs to be a value on potential losses. In case there is a pay-back obligation, a maximum loss should be defined and implemented. A typical stop-loss could be defined as X times the value of the capacity contract per year (like in the Belgian design) – this would make sure that the maximum loss is always relative to the size of the participant. In case a stop-loss clause is not included, it would risk excluding smaller players who would not be able to handle large pay-back obligations in case of unforeseen outages etc. It would also increase the height of bids in the auction as participants would struggle to value the risk of the pay-back obligation without a cap.

The argument mentioned in the proposal, stating that the bids will never tend towards zero without a stop loss, is also valid.

#### 6) How to define the requirements for longer term contracts

The one-year contract should be the standard. However, longer term contracts are necessary in order to facilitate new, larger scale investments. Still, defining the requirements for longer term contracts can be quite tricky. Cost based requirements are an easy parameter, but could have many downsides, such as introducing incentives to increase costs of investments in order to meet a certain cost threshold. Cost thresholds could also unintentionally and indirectly end up promoting certain, more expensive technologies over lower cost technologies. Also new investments vs larger maintenance and revamping of older investments – there should be a balance.

#### 7) Pay as bid vs Pay as cleared

The Pay as bid (PAB) vs Pay as cleared (PAC) topic could be a separate consultation on its own. There is much theoretical research done in this field. EPEX SPOT would like to highlight the fact that much of this research does not take into account the changing bidding behaviour from PAB compared to PAC. This shortcoming is correctly mentioned by SvK in this proposal. In PAC, there is no need to bid higher than costs (in the context of a CRM auction, this would reflect the missing money), as everyone will get the cleared price. This fosters transparency for all participants. With a PAB auction, theory often implies that this model would lower or eliminate so-called ‘windfall profits’ (seen as unnecessary income by parties which have no or lower missing money) by lower-cost technologies bidding in at lower prices. These theories do not take into account what we see in practice: market participants will change their bidding behaviour and overall system costs will at least be the same. Under a PAB, there is no incentive for market participants to be transparent on missing money – rather the opposite. Transparency of the auction will completely disappear – both for market participants as well as everyone else who would like to follow the market. This favours large, established enterprises who have good modelling tools in place – able to predict bidding behaviour of competitors. The smaller, new entrants would be at a large competitive disadvantage in this situation compared to PAC. EPEX SPOT therefore would be in favour of a PAB auction, enabling as fair and transparent clearing and pricing as possible.

#### 8) Single-round sealed bid auction vs multi-round descending clock auction

As pointed out in the proposal, single round sealed bid has a simpler design, lower operating costs and a faster implementation. As long as the auction has sufficient volume, the potential downsides mentioned of this form can be limited. However, EPEX SPOT would support both options.



## Attention points regarding process

Advantages of having an experienced, professional and neutral party operating the auction, separately from the TSO are many. First of all, the practicality of running such an auction can easily be implemented within an existing infrastructure. Both the implementation time – and cost – is expected to be limited compared to a party which has to set everything up from scratch. Second of all, a neutral party would eliminate any questions of incentives of TSOs or Ministries to take certain decisions, increasing trust in the fair and neutral treatment of bids. Finally, an experienced third party participating in the design process could add much value by visioning how different proposal could look like in practise before the decision is made.

Regarding the timeline of the proposal, it becomes clear that it is a challenge to have capacity in place when it will be needed. The estimated development time of 5-8 years is on the one hand realistic, looking at previous cases. However, experience both by Member States as well as the EU Commission, this timeframe could hopefully be lowered. Also, referring to the Belgian example, looking at the timeframe of starting the specific design and the approval was only about a year. Prolonging the current mechanism which expires winter 2024/2025 by three years, we end at 2028. Around this time, new investment is already needed. One option mentioned in the proposal is to ask an additional transitional solution in order to attract new investments. Adding new investment right before implementing / holding a CRM auction would undermine the CRM itself by removing some of the volumes needed / auctioned. An alternative could be to shorten the ideal lead time (time between the auction and delivery period) currently set at 4 years in the proposal in a transitional phase. This would allow more volume to be auctioned in a market wide system.

## Conclusion

EPEX SPOT is supportive of the proposal and is ready to contribute by participating in further discussions, and providing valuable inputs by sharing lessons learned. Designing a CRM is not easy, this can be seen in every country which has implemented it. But we are convinced that, based on experience from different countries together, these systems can keep improving. In addition to providing input to the design process in Sweden, EPEX SPOT would also be happy to support the Swedish CRM at EU level. Given the European nature of the business EPEX SPOT is in, EPEX SPOT has extensive experience with such processes.