

Subject: FEBEG's comments on ELIA's Public consultation on the study regarding the design of a scarcity pricing mechanism for implementation in Belgium

Date: 30 October 2020

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FEBEG thanks ELIA for having the opportunity to answer ELIA's Public consultation on the study regarding the design of a scarcity pricing mechanism for implementation in Belgium¹. The comments and suggestions of FEBEG are not confidential.

Executive Summary

Overall and for the reasons explained here below, **FEBEG does not see the need for implementing a scarcity pricing mechanism on short notice. Scarcity pricing might have an added value and bring an additional source of income for short term flexibility** in some circumstances. **However**, this source of income remains **very risky and hard to predict**; it does not bring the long-term visibility required for the substantial investment decisions that should be taken now in Belgium. FEBEG believes that **any approach should be very carefully considered (especially in the European framework). Implementing any type of scarcity pricing mechanism in the short term which is not justified by any system need would only result in more risks for Market Parties and therefore be very problematic.** And as stated many times before by FEBEG, **additional complexities would raise barriers to entry** in an already very complex market.

From a legal/practical point of view, the majority of the requirements put forward by CORE/CREG are impossible to implement under current market circumstances. FEBEG strongly believes that priority must be given to the timely implementation of MARI and PICASSO, which will require a lot of resources from all parties involved.

Specifically regarding the **proposal of Elia** (Omega Component – which is a more feasible/simplified version of a Scarcity pricing mechanism) FEBEG would like to clarify that, **if such a scarcity component would be implemented, a lot of improvements and fine-tuning would be required.** The **current proposal by Elia is thus far from perfect** and does not realise the required objectives in an efficient and effective way.

Whatever the next steps will be, **FEBEG considers that further alignment/discussions with the market parties involved is not only desirable, but essential.**

¹ <https://www.elia.be/en/public-consultation/20200930-public-consultation-on-elia-is-findings-regarding-the-design>

Introduction

We appreciate and welcome the study made by Elia on the proposals suggested done by CREG/CORE/UCL regarding the possible implementation of a scarcity pricing mechanism in Belgium. Overall, **the document provides a much-needed insight into the technical and legal barriers** that need to be overcome for such a mechanism to be implemented. We thank Elia to put forward this comprehensive analysis which contains many clearly outlined legal and technical arguments related to the proposals presented. We also welcome the alternative “feasible” proposal put forth by Elia, which seems to be an attempt to benefit from the opportunities of a scarcity price mechanism, without the high administrative costs, legal issues or the profound needed market adaptations related to some of the proposals put forward by CREG/CORE/UCL.

Scarcity pricing can be interesting in some specific situations/markets ...

Regarding the overall principles, we would like to stress that **FEBEG has always been a strong supporter of measures to improve the functioning of electricity markets.**

FEBEG would like to stress that **if a scarcity pricing scheme would be developed** in Belgium, a few **key principles** should be duly respected in any case:

1. An enhanced **market-parties involvement**, given the many rules to be adapted before a proper implementation of the scarcity pricing is possible. The impact on BSP and BRP will be very important. It is therefore crucial to involve the market parties sufficiently soon in the design and implementation process.
2. **Full transparency and replicability of the inputs**, applied formula and outputs: Market parties should be able to anticipate any activation of the “scarcity patch” and estimate its effect on the imbalance price.
3. **Real scarcity cost and level playing field**: the formula should reflect the cost of scarcity in real time, be considered in a regional setting to avoid market distortions and competitiveness issues for Belgian consumers (households and industries).

Also, and this will be elaborated in more detail in the following chapters, FEBEG has consistently argued that, **despite the recognition that well-functioning short-term markets improve economic signals for flexible capacity, we are convinced that they do not provide significant and sufficient investment signals required to ensure long-term adequacy.** It is important to underline that one should clearly distinguish short-term market improvements (scarcity pricing) on one hand and long-term aspects (adequacy) on the other hand. Moreover, both should be evaluated in parallel and NOT discussed sequentially.

We would firstly like to **clarify that we agree on the following elements regarding scarcity pricing mechanisms:**

- **Scarcity pricing – as proposed by the CREG – can strengthen the incentives for market participants to be available in *near* scarcity situations**, which could result in more investments in “short term flexibility” assets.
- **The general objective of any scarcity pricing mechanism**, as pointed out by Cramton (2017), is to produce **a price that reflects the value of energy *during* scarcity**
- With scarcity pricing a **generator can offer at marginal cost**, be efficiently dispatched in real time, **and still receive a price that reflects its value in scarcity**

- During (near-) scarcity conditions, the market clearing price is determined at a level significantly above the bid price of the most expensive generator running. **Hence, there would be no need for supra-competitive supply side bids** that can be subject to market power mitigation measures
- **Scarcity pricing ensures** that the real-time prices reflect the value of capacity scarcity by explicitly expressing a system operator's real-time willingness-to-pay for operating reserves, as such it is **rather a flexibility tool** providing investment signals **especially to highly-flexible (i.e. reaction time = 15mins) resources**. This is also recognised by CORE as they state "Scarcity pricing is not a panacea. The mechanism is designed to reward short-run flexible capacity."
- **Scarcity pricing** presents a solution to ensure that **prices can rise towards the Value of Loss of Load under specifically specified scarcity conditions**. However, scarcity pricing **does not eliminate other aspects and market failures** that are today inherent to the energy-only market.
- In a **price-based scarcity pricing mechanism**, the scarcity-reflective real time price **contributes to the revenues of the available resources**, and is thereby expected to provide a signal for investment **leading to a long-term capacity equilibrium** (however) **not necessarily corresponding to a predefined reliability standard** and/or ensuring it during each considered period.

...But is not our preferred option, even from a theoretical perspective

However, FEBEG also wants to recall that **Art. 44.1(b) EBGL** that states that the **imbalance settlement price should reflect the "real time value of energy"**. The real time value of energy naturally takes into account the risk of scarcity. Therefore, if properly set according to the EB GL principles, **the imbalance settlement price mechanism should de facto provide an adequate price in situations of scarcity**. As a result, and in the ideal world, **any administratively set scarcity adder would be either redundant, or serve as a deterrent to setting the imbalance settlement price properly**.

Following this idealistic reasoning, **only in case of a scarcity caused brown-out (load shedding), the value of that intervention must be reflected in the imbalance price**. For that reason, in such case, the imbalance price must be increased to the (assessment of the) VoLL. This is a very different approach to the one which applies a probabilistic approach (LOLP).

In any case, if implemented in a non-coordinated way, such additional components would lead to different imbalance price behaviour with similar imbalance volumes in the different European control areas. Their use should be harmonised through the definition of an imbalance price methodology, instead of listing the major components as currently proposed (as unfortunately set in the methodology for the Imbalance Settlement Harmonization).

Detailed remarks on Elia's assessment of UCL/CORE study

Before implementing a scarcity mechanism, one should consider not only the benefits or advantages. Indeed, a well-documented **cost-benefit analysis** of such a scarcity pricing mechanism is **essential** and one should also consider all the implications related to the financing of this system.

Desirability and need under scrutiny

Firstly, before amending/adapting existing regulations, which is in any case a costly and time-consuming endeavour, **a clear NEED should be present**. The need for a scarcity pricing mechanism, despite the benefits outlined above, is **however not so clear** (currently, in Belgium). Elia concludes that in the years leading up to 2030 sufficient flexible resources will be available. Hence, **there currently**

appears to be no need to provide further investment incentives to highly flexible generation capacity (as solving the adequacy issue will result in sufficient flexibility)

Secondly, as mentioned before by FEBEG, if the scarcity pricing aims to further **improve market signals for flexible capacity**, it should be noted that **multiple measures are currently already being implemented** to improve such signalling, such as Pay-as-Cleared/Marginal Pricing for the remuneration of activated balancing energy bids and improved Intraday markets, as well as improving market access for Demand Response.

On top of this, the **perceived benefits of scarcity pricing could be seriously over-estimated**. As mentioned before by FEBEG, **the lack of a real-time reserve market significantly reduces the impact scarcity pricing can have in a Belgian – and even European – context**. As such, it is highly questionable whether scarcity pricing can realistically become an effective measure to further enhance the measures already currently under implementation.

Based on the risks associated with scarcity pricing, and despite the benefits mentioned above, FEBEG agrees with the following statement put forward by Elia: “It is to be noted that notwithstanding a number of critical reflections feeding the debate, at this stage Elia approaches the **desirability** yet as an **open question** being **part of the more general consideration on the potential implementation of scarcity pricing mechanism** for the Belgian market.”

Elia rightfully raises some questions, which FEBEG would also like to underline and build upon:

Is there actually a problem to solve for which scarcity pricing is the solution?

- Do real-time prices not reflect scarcity in a “correct” way?
- Is there a need for more investment incentives to highly flexible generation capacity?

Do the benefits outweigh the costs?

- The administrative costs are significant (legislative changes and follow-up afterwards)
- The added market barriers are problematic for newcomers (in an already complex world)

We can conclude from this, as Elia does, that **“there are several elements that should be considered in the overall evaluation of the introduction of a scarcity pricing mechanism.”** And we can add that given the above, **a decision to implement ANY type of scarcity pricing mechanism should not be taken lightly as the implications are huge and the benefits may be less obvious than what one can expect based on theoretical/academic examples or examples from market which are very different from the Belgian market** (e.g. US markets).

Non-Feasibility of the CREG/UCL proposals in the short/medium term

We fully agree with the principle put forward by Elia that **any market design adaptation must consider the prevailing market design** and must comply with the boundaries set by the (notably EU) legal context. This, **obviously, has huge implications on the feasibility** of ANY type of market intervention.

Elia also mentions the issues related to the European level, stating that the “ever more important European dimension characterizes the prevailing market design”. This issue is also very important for FEBEG as a **“level playing field”**, between Belgium and other countries, **and a reasonably predictable legal framework are vital for a well-functioning** (electricity, balancing) market. More specifically as Elia rightfully points out, **any scarcity pricing implementation measure has to consider the upcoming go-live of the European balancing platforms PICASSO & MARI**.

It is clear that the **feasibility and desirability of scarcity pricing is seriously hampered when looking at the European level**. As mentioned before by FEBEG, any **pricing elements that are administratively added to the imbalance price** reduce the visibility the BRPs need, **distort the price signal** deviating from the pure marginal approach **and preclude a true level playing field amongst EU countries** that are about to link their balancing markets through Balancing Capacity Cooperations and participation to European Balancing platforms.

Link between scarcity pricing and adequacy

FEBEG is fully aligned with the following elements put forward by Elia, clearly indicating why a scarcity pricing mechanism should be considered as complementary (and thus to be implemented in parallel and not to replace) to mechanisms related to adequacy (such as capacity markets/CRM):

- The following statement of Elia resumes the issue perfectly “Academic literature supports the view that **scarcity pricing mechanisms and capacity mechanisms serve different purposes: the system adequacy is ensured through the capacity mechanism**, while the role of **scarcity pricing is to improve the accuracy of the short-term price signals**. A scarcity pricing mechanism addresses only one condition for the EOM to induce adequacy, i.e. allowing prices to reflect the value of scarcity. However, the other issues related to the investor risk, e.g. due to the lumpiness of capacity investment and the risk associated with relying on scarcity pricing for investment decisions, the absence of free entry and exit as well as the political intervention in the generation mix, still exist”.
- “**Scarcity pricing cannot guarantee adequacy in the same way and as efficiently as a well-designed volume-based capacity mechanism**. In other words, whilst volume-based mechanisms such as capacity markets, strategic reserves or targeted tenders are specifically targeted at ensuring system adequacy and seek to guarantee a volume based on a reliability standard, **scarcity pricing mechanisms’** primary objective is to ensure that balancing market and reserve prices reflect accurately the economic value of electricity at times of scarcity, and thereby **only indirectly contributes to system adequacy**.”
- One crucial element mentioned in the study, based on **Newberry (2020)** is the fact that a **real-time scarcity adder** can encourage short-term hedging contracts by **addressing a potential short-run market failure it does nothing to solve the missing futures/contract markets with a tenor of 14+ years**.
- One important reason why scarcity pricing does not contribute (or very little) to reaching the adequacy criteria is related to the issue of tail risk, which is clearly put forward by Newberry (2020). “**Scarcity prices are the tails of the distribution of spot prices, and as such prone to huge errors**, as pointed out not just in the financial literature”. **Therefore**, investment decisions that rely on scarcity prices are **extremely risky**. This is **not compatible with** the requirements of capital markets, as Elia points out: Being a capital-intensive industry, with significant risks of stranded assets and long asset lifetimes, the power generation industry is confronted with **risk averse capital markets**. Consequently, **no investment is possible based on such “tail risks”**.
- Another issue which arises when mixing short term and long-term objectives is that **targeting long-term resource adequacy by providing investment signals to highly flexible resources may be extremely costly**. As the scarcity pricing mechanism remunerates specifically highly flexible capacity (the one that can be considered as upward regulating capacity by Elia) such a mechanism provides investment signals especially to these resources costly and therefore not

cost-efficient. **Slower reacting capacity, however, is as useful for dealing with resource adequacy problems, and could be cheaper.**

- When looking at various examples of scarcity pricing in other electricity markets, one can unambiguously conclude that, except for 1 case (Texas), **there is a clear preference to implement in parallel scarcity pricing mechanisms and capacity markets.** Clearly, scarcity pricing is not conceived as the sole driver for investment, which is rather the objective of capacity markets. In the US, PJM, NYISO, MISO and ISO-NE all have a centralized CRM in place, **in Europe, ALL countries which have implemented (or plan to implement) a scarcity pricing mechanism (Ireland, Italy, Poland, UK) have implemented a CRM as well.**
- The “exception” of Texas may be limited in time as Zarnikau et al (2020) and Bajo-Buenestado (2019) point out that it is unclear if the improved scarcity pricing would outweigh the merit-order effect of RES in incentivizing market entry. Following this conclusion, Zarnikau et al (2020) consider that this may require additional mechanisms in Texas to induce adequacy, such as capacity mechanisms.

On top of this, already extensive list of arguments that warn against the use of a short term “fix” to a longer-term problem, we would like to add the following overall remarks

- It is not clear to which extent the scarcity pricing on a tense Belgian network will back-propagate on an interconnected EOM market.
- Looking exclusively at the national market should really be avoided given the very high interconnectivity of the Belgian market with other European ones, and this at different timeframes (forward, day-ahead, intra-day, real-time).

Timing

Elia rightfully and clearly advises against the swift and one-sided implementation of any type of scarcity pricing mechanism. **We agree with the overall analysis of Elia** stating that given that the regulatory track is to start from Q3 2021, and even if several documents are perceived to evolve in parallel, **a go-live of the scarcity component by the end of 2021 is not feasible – especially if a CREG/CORE solution should be implemented.**

FEPEG wishes to underline again the following principles and issues related to the timing put forward in the past. Concerning the **timing proposed by the CREG in its draft decision** for the implementation of the scarcity pricing mechanism, **FEPEG considers it to be completely unrealistic.** This timing is simply **not possible, nor from a practical/legal perspective** (considering the needed amendments and impacts on T&C BRP, the tariffs or the Federal Grid code) **nor from a technical perspective** (IT infrastructure). Also, we would like to support the remarks of Elia related to the **very heavy agenda ALREADY foreseen for the coming months:** several projects that require an evolution of the T&C BRP, the MARI/PICASSO implementation, adaptations to Transfer of Energy (ToE) Day-Ahead/Intra-Day and/or adaptations to the day-ahead balance obligation.

A go-live by the end of 2021 would also have a detrimental impact on the well functioning of the market as this would **result in rapidly changing methodologies/regulations** (related to the go live of PICASSO and MARI). This hypothetical future would result in **extreme uncertainty**, which would **completely outdo any perceived benefits from the implementation of a scarcity pricing mechanism and amplify the undesired side effects related to entry barriers.**

Detailed remarks on Elia proposal

The goal of the remarks listed below is to trigger further reflections on the design proposed by Elia. Those are preliminary remarks as the design is not finished. However, they provide a good basis to continue the discussion should the Elia proposal be implemented, despite all the arguments listed above related to, for example, the very limited desirability and need for a scarcity mechanism.

- In the current Elia Proposal, BSPs are providing upward capacity in real-time via BFU or balancing bids but are not remunerated for that (if not activated), as the omega is only applied to BRP. Therefore, what incentive has the BSP to do so (aka provide such capacities)? How can the initial goal of the omega (to attract high-flexible capacity) be achieved? The role of BRPs and BSPs should be clearly defined, as they might act in an opposite direction.
- BRPs want BSPs to invest in capacity to reduce the risk of the omega factor kicking in. In the current set-up, those investments might materialize in the form of very high capacity / very low energy content asset. Is this really the desired outcome of this mechanism?
- With the introduction of an omega factor, two incentives would be present (and potentially compete) in a single imbalance market:
 - Balance the system to not be exposed to high imbalance prices via the alpha component, and
 - Adding margin to not be exposed to high imbalance prices via the omega component.

This might lead to inefficiencies as those two can work against each other. As a BRP, one would tend to be long when there is not much upwards regulating capacity, even if the system is almost balanced (but short).

- The possibility to see the omega factor pushing imbalance prices close to VOLL at only a slightly positive System Imbalance will have destabilizing effects. BRPs would have a large incentive to keep the SI negative in order to avoid imbalance costs rather than offering additional incremental bids.
- For all these incentives to play out in a beneficial way it may be necessary to exchange flexible capacity between market participants such that large BRPs can extract value from it by reducing risk in their portfolio. A new kind of transaction between BRPs and BSPs, which is not part of this design, would have to be set up (money transfer in order to ensure investment by BSP).
- In terms of money flow, as the Omega factor is only applied when the system is short or balanced, it means that there will be more BRP with a short than long position, so more BRP paying the high imbalance price than receiving it. The existing delta would flow to Elia. It must be clear how this delta will be reallocated by the TSO (e.g. follow the current rules or not)