

Subject: FEBEG comments on CREG's public consultation on Gross CoNE and X-factor
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FEBEG thanks the CREG for having the opportunity to react on its "Public consultation on the draft proposal 2428 for gross new entrant cost, correction factor X and weighted average cost of capital for the T-4 auction covering the supply period 2027-2028"¹. The comments and suggestions of FEBEG are not confidential.

Introduction

First of all, FEBEG would like to remind the importance of a correct calibration of the parameters CoNE, net CoNE and X-factor as these will define the shape of the CRM demand curve. Given that these parameters will determine the possible access of capacities/technologies into the capacity market, they should be computed in a way that the relevant technologies that will contribute the most to the security are able to participate. In this respect, FEBEG observes that the Minister has, in the past, rightfully deviated from the proposal of the CREG so that the objectives of (i) security of supply, (ii) technology-neutrality and (iii) alignment with European CRMs were ensured. FEBEG recommends to continue this approach in the future.

However, FEBEG still observes that for the auction T-4 2025-26 and T-4 2026-27, the basis data used for the computation of the net-CoNE and global auction price, respectively established at 50 €/kW and 75 €/kW, were not fully correct. For instance, it seems that the OCGT was used to define the "best cheapest new entrant" for the first auction but one can observe that no new OCGT actually cleared in that auction, meaning a.o. that the net CoNE computed for that technology was not in line with the reality. On top, the number of OCGT projects developed would not have filled the gap in that auction. A posteriori, one can conclude that the OCGT was clearly not the "best new entrant" in that auction (too low-CAPEX, over-estimation of the revenues, impact of inflation and taxes, ...). We therefore invite the CREG and the Minister to take the lessons learned of the past auctions to calibrate future parameters.

¹ <https://www.creg.be/fr/consultations-publiques/consultation-publique-relative-au-projet-de-proposition-2428-de-cout-brut>
<https://www.creg.be/nl/openbare-raadplegingen/openbare-raadpleging-betreffende-ontwerpvoorstel-2428-van-de-brutokost-van>

Executive Summary

With regards to the CoNE, FEBEG is very surprised to see that the impact of the current strong inflation in Europe and across the world is not reflected in the proposal, given that the values are mostly identical to last years' proposal. The Producers Price Index recently published by the German statistics' office (DE_STATIS) shows that the producer prices have increased by 33% in June 2022 compared to June 2021².

With regards to the CREG proposal,

- List of technologies: FEBEG considers that DSM, batteries and IC gas engines may not, on their own, fulfill an important gap and should therefore be removed from the list.
- CAPEX levels: FEBEG recommends to recompute the CAPEX for the OCGTs and integrate the impact of the observed high inflation (cf. previous remark: DSM, batteries and IC engines should be removed from the list).
- FOM: FEBEG recommends to integrate an indexation of at least 2% a year to correctly reflect the impact of the inflation throughout the capacity contract duration.
- Economic lifetime: FEBEG recommends to align it with the maximum duration of the capacity contract (15y for OCGTs/CCGTs/CHPs) given the uncertainties in a context of energy transition.
- WACC: FEBEG supports the proposal of the CREG.

With regards to the X-factor, FEBEG recommends to set the uncertainty margin for the determination of the net-CoNE at 1.5, similarly to past auctions. Because the determination of the net-CoNE is based on a large number of hypothesis, the X-factor should be increased compared to the CREG proposal to take into consideration these uncertainties. For instance, an extremely important uncertainty is without any doubt the difficult exercise of the estimation of the market revenues (both electricity market and ancillary services) over the lifetime of an asset. Moreover, a factor of 1.5 is in line with the correction factors applied in other European capacity markets. Finally, the uncertainty with regards to the economic parameters is particularly important in the context of the current energy crisis and its impact on the inflation but also the energy transition and the integrated European electricity market which bring – by definition – a lot of volatility and unpredictability in the Belgian electricity system.

²https://www.destatis.de/EN/Themes/Economy/Prices/Producer-Price-Index-For-Industrial-Products/_node.html#sprg266136

Context & CREG proposal

The CREG proposes following values in its document under consultation:

- CoNE

The CREG proposes to use the calculation of the CoNE made by the FPS Economy – DG Energy in its note of 10/06/2022 in the frame of the determination of a new reliability standard. It should be noted that this note was not available during the consultation period and that thus limited information on how these values were determined was available for comment.

The assumptions used to determine the CoNE for each reference technology are as follows:

Technologie	CAPEX (EUR/kW)	FOM (EUR/kW/j)	Durée de vie (j)	Facteur de réduction
OCGT	400	20	20	91 %
CCGT	600	25	20	92 %
Icgas	400	15	15	95 %
CHP	800	60	20	93 %
PV	600	25	15	1 %
Éolien onshore	1000	50	15	9 %
Éolien offshore	2300	80	15	13 %
Stockage par batterie (4 h)	750	15	15	79 %
Demand Response	0	20	1	66 %

The outcome concerning the cost of a new entrant by reference technology, taking into account the derating factor, are presented in the table below.

Technologie	EAC (EUR/MW/j)	Facteur de réduction	CoNE (EUR/MW/j)
OCGT	75 000	91 %	82 400
CCGT	106 000	92 %	115 200
Icgas	72 300	95 %	76 100
CHP	162 500	93 %	174 700
PV	93 400	1 %	9 340 000
Éolien onshore	174 300	9 %	1 936 700
Éolien offshore	392 400	13 %	3 018 500
Stockage par batterie (4 h)	131 200	79 %	166 100
Demand Response	20 000	66 %	30 300

It should be noted that considering the list of technologies used to determine a reliability standard should not lead to using the same list of technologies for the determination of a demand curve as the purpose is clearly different.

– WACC

Technologie	Rendement min.	Prime de risque	WACC
OCGT	5.53 %	6.00 %	11.53 %
CCGT	5.53 %	5.00 %	10.53 %
Icgas	5.53 %	6.00 %	11.53 %
CHP	5.53 %	5.00 %	10.53 %
PV	5.53 %	3.50 %	9.03 %
Éolien onshore	5.53 %	3.50 %	9.03 %
Éolien offshore	5.53 %	3.50 %	9.03 %
Stockage par batterie (4 h)	5.53 %	7.50 %	13.03 %
Demand Response	5.53 %	7.50 %	13.03 %

– Correction factor (X-factor) to be considered on the best new entrant: 1,1

General remarks on the Price Caps in the CRM:

FEBEG particularly recommends CREG and the Belgian Authorities to carefully choose the best new entrant technology in order to calibrate the CRM demand curve. Selecting the technology with the lowest cost (net-CoNE) which does not have the full potential to solve the adequacy issue given its constraints would put the security of supply of Belgium at risk by excluding all other valuable technologies. In addition, this could make the CRM no longer technology-neutral as only very limited technologies could participate in the CRM.

The determination of the net-CoNE and the X-factor are indeed essential components of the CRM design as they will determine the maximum bidding price in the auction (“global auction price cap”).

The impact of an under-estimation of the net-CoNE is problematic as there is a number of negative impacts:

- **Lower competition in the CRM auctions** → a too low net-CoNE will inevitably exclude many technologies from the auction and thus the number of new projects being offered
- **More volume moved from Y-4 to Y-1 auction** → a too low net-CoNE will increase the chance that some capacity – due to the selection rules – will not be contracted in the Y-4 auction but shifted to the Y-1 auction and thus **an even more important volume to be procured in the Y-1 auction.**

The technologies with very short construction lead time (<1y) being able to fill in the gap are rather limited today. In addition, increasing the volume to be procured in Y-1 in a very interconnected country as Belgium, with limited fall-back solutions, is problematic: the recent study of ELIA on the Adequacy and Flexibility needs in the 2022–2032³ period clearly highlights that the GAP volume can increase significantly when combining different risks outside of Belgium's control (e.g. outages on French nuclear units, coal phase-out in neighbouring countries, reduced reliance on UK which is no longer part of EU, objectives on minRAM not reached, etc.).

While it is important that the cost of the CRM is being kept at a low level, one should not forget that:

- 1) the **primary objective of the CRM is to ensure the Security of Supply**
- 2) the **global system costs and the impact in the long run also needs to be considered**. A 'too low' cap will prevent the bids from certain technologies but may also give an exit signal to some existing baseload capacities to the benefit of some technologies with lower CAPEX costs but with very high marginal/activation cost⁴, hence drastically impacting the total system costs and the invoices of consumers.

Comments regarding the CoNE

On the economic Lifetime (or payback time)

It is not correct to consider 20 years as economic useful lifetime for the thermal technologies such as CCGT & OCGT. This would assume that new CRM payments beyond 2041 and/or sufficient merchant revenues would cover the missing money. This latter strong assumption may not be aligned with investors' expectation and behavior.

1. The CRM has been approved for 10 years: it is very uncertain that the CRM mechanism will be prolonged afterwards and, if so, the design would probably vary a lot, requiring in any case a new approval by the European Commission. It is therefore not possible to assume CRM revenues from yearly (Y-1) auctions.
2. the predictability of merchant revenues for thermal assets at the 2040 horizon and beyond becomes extremely difficult in a new carbon-neutral world, especially as new investments will be required to adapt the power plants to this new carbon-neutral world.

³ <https://www.elia.be/en/electricity-market-and-system/adequacy/adequacy-studies>

⁴ Additional DSR capacities will indubitably have a much higher activation costs than existing DSR as easily interruptible processes have already been identified and harvested. The remaining potentially interruptible processes will only have increased activation costs.

However, FEBEG agrees that the economic lifetime of DSM is very limited. Their availability in the market is linked to industrial processes, the economic situation and other parameters such as the change of equipment and processes. Experience shows that long-term commitments for such capacity is very rare.

In conclusion, one cannot assume that any investor will compute its annuity over a duration longer than the capacity contract he is eligible for. For thermal assets, the economic lifetime needs to be limited to maximum 15 years.

On the WACC:

In the framework of this proposal, FEBEG supports the new proposal of the CREG, consisting in adding a risk premium to the minimum “return”. This better reflects the risk associated with the different technologies.

On the CAPEX costs:

Generally speaking, the impact of the inflation also needs to be integrated in the computation of the CAPEX costs of the different technologies. Following statement of the CREG is too generalist: *« Bien que l’augmentation des coûts des matières premières s’est manifestée dans les dossiers d’investissement que la CREG a reçu en 2022, il apparaît que les coûts d’investissement totaux sont toujours alignés avec les estimations de CAPEX utilisées dans les études citées »*. FEBEG wonders if the CREG is able to draw this conclusion for all technologies based on the information it has received in 2022.

Indeed, FEBEG is very surprised to see that, even if the world has changed since the last determination of the CoNE in 2021, the values have remained the same as last year, except for the IC Engines and the batteries. Even then, the CAPEX for these technologies is still underestimated taking into account to price evolution of certain rare raw materials, e.g. lithium.

The case of the OCGT, and IC-gas engines is particularly questionable, given the results of the first auction. FEBEG asks to review the computation of the CAPEX costs for the OCGTs and IC-engines: as already mentioned in the past the 400 €/kW proposed by CREG is too low taking into account past and current market circumstances.

Finally, given the ongoing permit requests, one can observe limited projects for those technologies.

In conclusion, the CAPEX costs proposed by CREG for OCGT’s, IC engines and batteries are not matching the offered prices in the market and are, hence, an underestimation of the CAPEX costs for these technologies.

On the Fixed O&M

FEBEG will not comment on the FOM of thermal assets given the sensitivity of the topic.

However, the O&M costs proposed are determined in real terms. In reality, the latter will be indexed first up to the first delivery date 2027 and afterwards it will continue to rise with contractual indexation clauses from OEM manufacturers mainly for long term maintenance and parts to guarantee the availability of the plant over the entire lifetime of the asset. Therefore, an indexation of at least 2% per year needs to be considered in the computation. The proposed 2% corresponds to the average historical inflation in Belgium.

The COVID and actual energy crisis increased drastically the cost of raw materials, transportation and of all manufactured goods. This has been translated in a stiff increase of the inflation which definitely needs to be accounted for. The strong impact of the inflation has clearly not been integrated in this exercise as the values proposed by the CREG are identical to the values proposed last year.

Comments regarding the X-Factor

FEBEG does not agree with the proposed X-Factor of 1.1. According to FEBEG, the proposed value does not consider the many uncertainties around the estimation of the net-CoNE:

- **There are important uncertainties regarding the expected revenues from the market.**

Indeed, according to FEBEG, the revenues of (thermal) assets will become very uncertain in the context of the energy transition and the European Green Deal, with the massive development of PV and onshore & offshore windmills. This trend will impact the role some capacities will play in the energy system, from baseload to back-up capacities. Next to the available means of production, there are as well macro-economic trends on both global & European level – such as economic growth, oil, gas, coal and CO2 prices – that will define thermal profitability. The variability of revenues is also important in the case of an economic crisis. Therefore, FEBEG advises CREG to consider the important uncertainties on market revenues of the thermal technologies in the computation of the X-Factor.

As mentioned in the ELIA consultation in preparation for the auction T-4 2027–28, FEBEG has strong doubts about the computation of the ancillary services' revenues: FEBEG would like to highlight that historical costs per technology used by ELIA for the computation of those revenues (even with some corrections that ELIA does apply) are not representative of future revenues for the concerned technologies.

- **There are missing elements in the computation of the revenues:**
As already mentioned in the past, the WACC assumed for the net-CoNE computation is a post-tax WACC (as the WACC retained by the CREG in its proposal takes into account the impact of taxes). Therefore, for sake of consistency, the negative impact of the taxation on the income should also be reflected in the net-CoNE computation.
Indeed, the capacity provider will be subject to a 25% corporate income tax on its taxable base as per the current tax legislation in force in Belgium. This taxation surplus cost must be included in the annuity to maintain consistency with the (post-tax) WACC.
- **This low value will not capture the uncertainties linked to the estimation of the CAPEX and the economic lifetime of a capacity.** For instance, the evolution of the cost of raw materials is clearly a source of uncertainty and will impact the cost of different technologies.
- **Finally, the X-factor should also integrate a possible wrong choice of the reference technologies for the gross CoNE from the shortlist.** Conform the Royal Decree, the value of the correction factor X should take into account the uncertainties associated with estimating the net cost of a new entrant, both in terms of cost of a new entrant, as in terms of differences in costs between eligible technologies. In that sense CREG's proposal seems to only consider one single technology for the determination of the X-factor. The value of 1.1 does clearly not cover above mentioned uncertainty risk.