

## Febeliec answer to the Elia consultation on the methodology and input data for the adequacy and flexibility study 2021

Febeliec would like to thank Elia for this consultation on the methodology and input data for the adequacy and flexibility study to be conducted by end of June 2021.

Febeliec appreciates that Elia will finally conduct a consultation on the methodology, yet still regrets that Elia has chosen not to involve the stakeholders in the development of this methodology, other than the stakeholders imposed by the law (FPS Economy and Federal Planning Bureau, plus coordination with CREG). Febeliec also regrets that Elia does not seem to have taken into account the comments made by Febeliec during consultation on the previous study on the methodology, which were discarded by Elia as not being relevant (as the consultation on the adequacy and flexibility study of 2019 only covered the input data).

Febeliec will provide comments on the methodology and the newly proposed changes as well as the proposed excel file by Elia. Febeliec will furthermore also provide comments on sensitivities which according to Febeliec should be covered by this new A&F study. Febeliec also wants to refer to its comments made during the workshop in which Elia presented this consultation and hopes that Elia will at least take all its comments into account in order to improve the study

Febeliec has some questions about the follow-up from Elia on this consultation. As Elia remarks that this is a voluntary initiative by Elia in order to elaborate a robust study and to collect the input from market parties (which Febeliec is not convinced, as it is of the impression that at least the consultation on the input data is not voluntary), Febeliec wonders what, if any, will be the framework in which Elia will take into account the answers received on this consultation. In the past, Febeliec has too many times seen that almost no input whatsoever in (formally imposed) consultations lead to modifications of the original proposals and wonders what will thus be the approach by Elia in this consultation. Febeliec also refers to its above-mentioned remark on the lack of involvement of stakeholders during the development of the methodology. Febeliec also wonders what has been the topic and outcome of the four collaboration meetings (with FPS Economy and the Federal Planning Bureau) and bilateral concertation meeting (with the CREG) referred to in the consultation documents and regrets that no transparency is given.

Febeliec also takes note from the remark from Elia that it will to the maximum extent include the provisions of the now formally adopted European Resource Adequacy Assessment (ERAA) methodology into account, yet remains after this consultation still in doubt about which aspects of this methodology will or not be applied. Febeliec would like to see an exhaustive overview of which elements were taken on board and which were discarded, and especially for the latter a clear justification. Febeliec also wonders to which extent the (at the same approved) methodologies for Value of Lost Load (VoLL), CoNE (Cost of New Entrant) and the Reliability Standard (RS) will also be taken into account, as also these can have a fundamental impact in the analysis! Febeliec is amongst others surprised to see that there seems to be no impact on the LOLE criterion, despite the decision on these methodologies, implying that the current Belgian standard imposed by the Electricity Law is not in line with European legislation and regulatory decisions, with major impact on the outcome of this analysis.

On the proposed “improvements”, Febeliec has a wide range of comments, which are listed below. Febeliec insists that also many other improvements can definitely be made to the methodology applied by Elia for the A&F Study 2019, on top of the “improvements” proposed by Elia itself. In this context, Febeliec wants a.o. to refer to Study (F)19557 of 11/07/2019 of the CREG, which Febeliec fully supports and considers an essential document when discussing possible improvements to the Elia methodology. Febeliec insists that all comments by the CREG should be taken into account for this A&F Study 2021 or otherwise a complete and exhaustive argumentation should be given in case Elia would consider not to incorporate them in the current A&F Study.

- On the target years to be assessed, Febeliec is surprised that Elia will only assess 2022, 2023, 2025, 2028 and 2032 and not every year within in the period 2022-2032. In any case, Febeliec is very surprised that 2024 is not included, as this is not so far in the future and will in any case have to be covered in other adequacy assessments (e.g. strategic reserve) and could provide valuable additional information in light of other measures (e.g.

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*Febeliec vertegenwoordigt de industriële energieverbruikers in België. Zij ijvert voor competitieve prijzen voor elektriciteit en aardgas voor industriële activiteiten in België, en voor een verbeterde bevoorradingszekerheid in energie. Febeliec telt als leden 4 sectorfederaties (Chemie en life sciences, Glas, papierdeeg & papier en karton, Textiel en houtverwerking, Baksteen) en 35 bedrijven (Air Liquide, Air Products, Aperam, ArcelorMittal, Aurubis Belgium, BASF Antwerpen, Bayer Agriculture, Bekaert, Borealis, Brussels Airport Company, Covestro, Dow Belgium, Evonik Antwerpen, Glaxosmithkline Biologicals, Google, Ineos, Infrabel, Inovyn Belgium, Kaneka Belgium, Kuraray-Eval Europe, Lanxess, Nippon Gases Belgium, Nippon Shokubai Europe, NLMK Belgium, Nyrstar Belgium, Oleon, Proximus, Sol, Tessenderlo Group, Thy-Marcinelle, Total Petrochemicals & Refining, Umicore, Unilin, Vynova en Yara). Samen vertegenwoordigen zij ruim 80% van het industriële verbruik van elektriciteit en aardgas in België en zo'n 230.000 industriële jobs.*

possible introduction of a scarcity pricing mechanism, Y-1 auction of a possible Belgian CRM, ...). Febeliec is also surprised that 2026 is not covered, as it would be the first year without nuclear plants if the current nuclear phase-out calendar is applied.

- On the climate years proposal by Elia, Febeliec most strongly does not agree with the proposal by Elia. Febeliec does not understand why Elia has opted to remove the current approach with historic climate years (albeit adapted to reflect the ERAA methodology and thus limited to the 30 most recent years), as this approach has never been contested by any stakeholder (other than the representativeness of certain climate years far in the past, an element now clearly solved by the ERAA methodology by putting a maximum limit of 30 historic years). Febeliec is even more surprised that Elia wants to replace an existing and well-known and understandable approach, as said never contested by any stakeholder, with a novel and untested black box approach, for which Elia itself states that *“several steps are required before simulations can be performed and there is no guarantee that this can be implemented in time before the publication of the study. In case the intended implementation shows not to be feasible, alternative approaches will be investigated and proposed”*. For such an important analysis as the two-yearly A&F study, Febeliec insists that the risk of a blackbox approach which might even not be implementable on time is not taken at all. Febeliec however can support that such approach is investigated in-depth in order to see whether this could be done for the next A&F Study in 2024, also building on additional experience with this model from RTE and MeteoFrance. Moreover, art. 4 (f) i. of the ERAA methodology stipulates that the central reference scenario shall rely on a **best** forecast of future climate projection. However, the proposed blackbox of RTE and MeteoFrance does not guarantee this, as it is required to determine several parameters to compose the 200 synthetic climate years. Febeliec questions thus whether the proposed approach is compliant with ERAA. While it is a blackbox and thus unclear how the parameters impact each other, the model of RTE and MeteoFrance also clearly implicates the necessity to make assumptions and scenarios. Elia already shows in its document that based on the different IPCC scenarios (of which only two are selected, but many more exist), the range of outcomes is quite extreme in 2100, but also already in the period 2025-2030. Febeliec can only observe that Elia seems to propose to apply one scenario (RCP8.5) for 2025 and two scenarios (RCP8.5 and RCP4.5, where for the latter it remains strange how with only RCP8.5 in 2025 one would all of a sudden end up in RCP4.5 five years later) for 2030, without providing any justification for this choice nor an overview of the impact, implications or even the underlying assumptions and models. Moreover, Elia also clearly indicates the very complex and computationally intensive process to translate these weather variables into generation variables (which seems less to be an issue for the already applied method based on historic climate years, as this has always been conducted by Elia without any apparent problem). For Febeliec, the cumulation of the above-mentioned elements, referred to from the document and presentations from Elia, clearly shows that it would be unwise and imprudent to apply this new approach in the upcoming A&F study, as the risk of (unwanted or unintended) errors with potentially enormous impact is too great, especially in such an essential assessment as that of Belgian electricity adequacy in the next decade. Febeliec however reiterates its support to investigate and assess the merits of this approach for future A&F studies thoroughly before applying it, as has been done for many other topics (e.g. demand side response), with full transparency and in close cooperation with all stakeholders.
- On the Economic Viability Assessment (EVA), Febeliec, as well as other stakeholders, has already in the past opposed the approach taken by Elia to apply a metric based on the median of simulated revenues for one year. Febeliec refers to its many comments on this topic in previous consultations, none of which have been taken into account, but also explicitly wants to refer to the ERAA methodology, which clearly stipulates that the expected (and not median) revenues have to be taken into account. Febeliec also wants to reiterate its many comments on the risk averseness that Elia is always citing and applying for investors in generation capacity (or presumably also other flexibility assets, although this does not always seem to be treated by Elia in the same way as for many other assets flexibility can be referred to as secondary use of assets that have been built for other purposes, in particular in case of demand side response, where the biggest chunk of investment is related to the demand part and not the demand response part), which is considered to be a key element of the EVA by Elia, while all other actors in the system, including BRPs, suppliers, consumers etc, all seem to be extreme risk takers and not risk averse at all. Febeliec opposes such view, as it is clear that also these actors will make economically rational decisions, including hedging of costs via forward markets (e.g. for suppliers and consumers, to avoid to be exposed to greatly varying costs with locked-in revenues from long term sales contracts) or avoidance of high penalties (e.g. BRPs to avoid being exposed to extreme imbalance tariffs and costs). These aspects will clearly also have an impact on the decisions of market actors and are (or should be) taken into account by investors in new capacity. In this light, it remains extremely strange that Elia (as well as the academic studies they refer to) seem to be blind for revenues from a.o. forward markets. Furthermore, it remains strange that Elia, despite many comments from stakeholders, still does not look into portfolio effects.

Indeed, while assets individually might be confronted with certain negative effects, the combination of different assets can create on the one hand higher pooling effects but also and more importantly synergetic effects (e.g. in case of combinations of different assets classes that complement each other). Febeliec regrets that this is still not taken into account. Last but not least, Febeliec, as already stated in the past, does not at all understand why for this EVA every asset individually has to be profitable every single year. As already mentioned above, Febeliec sees portfolio effects, but also Febeliec is convinced that for an investor an asset has to be profitable over its lifetime and not every single year necessarily. Indeed, such very conservative choice (perhaps inherent to a regulated monopoly situation) is not representative for real world situations. In the most extreme case, this means assets would never be built, as the period of construction has only costs and no revenues and is as such by definition not profitable. Investors are used to live with situations where over the lifetime of an investment certain periods are more profitable than others, with certain periods also potentially having a negative profitability, as long as the overall profitability over the lifetime is sufficient to recover the costs and a profit margin. Febeliec strongly regrets that none of these aspects, despite being mentioned many times over the years by many stakeholders, have still not been taken into account at all. In any case, as the ERAA methodology has been approved, Febeliec most strongly insists that Elia align its methodology with ERAA in order to incorporate expected (with their respective probabilities) revenues instead of median revenues, as the latter by definition discard the very high potential revenues in scarcity situations and thus by definition unduly undermine the business cases for investors in the EVA by Elia, thus in turn by definition but based on wrong inputs leading to missing money and system adequacy issue. Nevertheless, Febeliec counts on the fact that Elia has stated that it will include to the maximum extent possible the provisions of the ERAA methodology and thus that, while this is a quick win, Elia will definitely modify its methodology to take this aspect into account. Another element that Febeliec wonders about is the very high WACC rate (7%) referred to, as with an almost zero risk free rate and a high leverage in combination with evermore abundant financial credit possibilities, this according to Febeliec leads to evermore extreme return on equity results. Febeliec requests clearly that next to the WACC also assumptions are shown on rate of return on equity, as it is wondering which rate of return on equity is implied by the modelling. Based on this data, Febeliec and other stakeholders will then get a better view on the real implicit profitability for investors and will be able to better grasp how much, if any, the expected real return of investors is.

- On the use of forward prices, Febeliec insists that in line with the ERAA methodology these existing prices are incorporated as much as possible and in any case are used at least as a sanity check of the model, as these prices indicate a real willingness of market parties to sell and buy energy in those timeframes and as such provide very valuable information.
- On the additional revenues, Febeliec, as already mentioned several times, most strongly insists that next to the revenues of ancillary services also revenues from forward markets are taken into account, because even though these might not be so easy to estimate, it is clear that discarding such revenues of course leads to an underestimate of overall revenues and thus to a negative EVA and an artificial but undue higher need for additional revenue streams. On the revenues from ancillary services, Febeliec insists that these are taken into account based on the expected distribution over asset classes. Indeed, some ancillary services and their (considerable) revenue streams (e.g. aFRR, FCR) seem to benefit more certain segments of assets than others, thus improving their profitability considerably. A linear attribution of overall ancillary costs of Elia as revenues to all segments indiscriminately could thus lead to unwanted and incorrect effects.
- On the types of capacity to be monitored, Febeliec is extremely surprised that Elia states that *“new CHPs can be assessed against electricity market revenues only, until it is known that specific subsidies or policies are already in place”*. For Febeliec, this approach is unacceptable as while most of these assets are built in line with policies, and as such thus are policy driven and not to be taken into account at all for an EVA in the first place, it is very clear that such assets are never built based on a business case which only looks at electricity market revenues. Rather the contrary, in most cases electricity is only the, even though sometimes very interesting, side product of a need for steam or heat, which is the primary driver for most CHPs. Discarding the value of this revenue stream for new CHPs will of course and almost by definition undermine or destroy their business case in this EVA, as compared to the reality. Febeliec can under no circumstance agree with any such wrong and unrealistic approach and insists that in the entire A&F Study a sense of urgency towards realism is included through external validation and reality checks. On new pumped-storage facilities, Febeliec wonders whether this also includes the extension of the capacity (MW or MWh) of existing capacity, for which also specific incentive schemes have been introduced which should then of course be taken into account in any EVA. The same applies for *“market storage facilities”*, whatever specific assets Elia might mean by these (also covering home batteries, EVs, ... which up until now had always been amalgamated into a broader category of market response). On new DSR capacities, Febeliec insists to receive much more additional information, as for Febeliec

it is clear that DSR is almost entirely secondary use of assets that have already been built for other purposes. The business case for the construction of these assets is based on other markets than the electricity market, and while investments are needed to allow DSR through the use of inherent flexibility in demand processes, it is clear that those investments are in most cases not extreme and in any case magnitudes smaller than those required to build the assets themselves in the first place. Especially in greenfield settings, without need for retrofitting of assets and the related costs, these elements can be taken on board in the initial design and could thus in many cases result in minor additional costs. Such elements should in any case be reflected in an EVA. Moreover and even more importantly, it is adamant that a distinction is made between demand shifting (e.g. heating and cooling) and demand reduction (e.g. in assets running at maximum capacity, where lost production can not be made up), as the impact on any EVA through opportunity costs will be completely different. As such, Febeliec suggests that at least this segmentation is applied in any EVA for DSR.

- Febeliec takes note that Elia intends to extend the EVA to other countries. Febeliec wonders what the use is of such extension, especially taking into account that a wide range of countries in Europe, including many neighbouring countries, have full-fledged CRMs or a myriad of (out of market) reserve mechanisms in place. In any case, Febeliec would like to know to which countries Elia intends to apply this extension and how countries not included in this extension will be treated. Moreover, Febeliec wants to know how Elia intends to incorporate all different elements in the considered countries (e.g. relating to revenue streams from the aforementioned CRMs and reserve schemes, but also differences in subsidy schemes, impact of tax schemes, ...). Febeliec insists that it is appalled by the lack of any concrete input or information by Elia on this very important aspect (Elia in its note only mentioning 4,5 lines without any real information).
- On the extension of the EVA to more target years, Febeliec wants to make a similar comment as that on the extension to other countries. Febeliec wonders how Elia intends to tackle this aspect, as yet again almost no information is provided. Febeliec is even more so in doubt to the application if more countries and more target years are combined. Last but definitely not least, Febeliec reiterates its earlier comments on the profitability of an asset over its lifetime as compared to individual years, which of course will impact the EVA over several years, while this does not even tackle the also before-mentioned additional complexity of portfolio and other synergetic effects. Febeliec regrets that Elia does not at all take such elements in consideration, which will of course negatively impact the EVA and thus have a negative impact through the skewed analysis on perceived Belgian adequacy. Febeliec also regrets that yet again for this important new topic less than 7 lines are given as information.
- On flexibility and balancing reserves, Febeliec refers to its many previous comments on these topics, most of which have still not been tackled, as well as the above-mentioned comments. Febeliec will suffice at this point to indicate that it has not seen how Elia will treat on the one hand the introduction of a scarcity pricing mechanism in Belgium, if that were the case (with the issue still under discussion and a decision not yet taken), and on the other hand the impact of the many changes in the balancing market in future years. Indeed, while the former could have a very large impact on the balancing market (e.g. imbalance price through the omega-solution proposed by Elia or even larger if taking into account the proposals from CORE from the UCL) and thus revenues for market parties and thus act as an additional investment signal, the latter should also have an impact on both the balancing price and revenues as well as the flexibility needs for Belgium. Indeed, through European balancing platforms and collaboration (MARI, PICASSO, IGCC, ...), overall balancing (reserve) needs in Europe should decrease and flexibility in Belgium reserved for the balancing timeframe (and thus according to Elia's methodology not participating to adequacy) should also decrease. On balancing reserves, Febeliec would also most strongly reiterate its longstanding position that in case of acute adequacy concerns and the risk of curtailment, these reserves should and will also be used (as the joint position of BRPs will become imbalanced and reserves will be activated to correct this imbalance) and should as such be considered in the adequacy analysis, as omitting their impact would again by definition artificially create an additional adequacy concern. In any case, Febeliec wants to stress that even though there might be some correlation between adequacy and possible imbalances, this correlation is far from perfect and as such at least that difference should be considered in any adequacy assessment.
- On cross-border capacity modelling, Febeliec insists that as of 01/01/2026 70% minRAM will be in place on all Belgian borders based on legal provisions (as all action plans will have to be concluded) and as such this minimal threshold should duly be taken into account in the assessment. Febeliec also wonders how Elia will tackle future interconnectors and other grid investments and their impact on cross-border exchanges, in Belgium (e.g. Ventilus, Boucle de Hainaut, Nautilus, Alegro 2, ...) but also in other countries (new interconnectors, phase shifters, grid reinforcements, ...). Febeliec also wants to add that it wonders how Elia will take into account all the other (software as compared to hardware) changes in the interconnected markets, such as a.o. the coupling of more zones in a flow-based approach, the continuous modifications to flow-based coupling, advanced hybrid

coupling, .... which should all lead to improvements in cross-border flows (the opposite would be very strange. Febeliec regrets that all these positive evolutions, paid for by consumers, seem not really to be taken into account by Elia, not even in a study looking ten years in the future, a scope similar to the European Ten Year Network Development Plan. Febeliec suggest that this omission by Elia is duly remedied, as there is still ample time to do so until the due date of the A&F Study.

- On out of market capacities, Febeliec insists that not only the Belgian Strategic Reserve but also those in other countries are considered, as Europe imposes ever more solidarity mechanisms between Member States. Febeliec also insists that all capacity that is taken out of mothballing is also duly taken into account. Febeliec wants to point out that the de-mothballing of capacity should be a clear indication that the economic viability of such assets seems to be sufficient, as otherwise any such assets would have remained out of market.
- On price limits in the electricity market and as already mentioned above, Febeliec insists that for all practical means such price limits are no longer applicable as an automatic mechanism is in place where the price cap is raised if 60% of the previous price cap is reached anywhere in the CORE region. Febeliec strongly objects the proposal of Elia to apply this rule on a yearly basis, as this would mean that for the first year of such automatic occurrence, the impact in the model would only be seen one year further out and only with an increase of the price cap with 1000 €/MWh, while in reality such increase will immediately be applicable and could also happen several times consecutively over the course of one year, thus driving the price cap much sooner much higher and in effect removing its impact almost entirely. The proposal by Elia however does not integrate this aspect and is overly conservative and even incorrect and as such risks to restrict the model too much (as compared to reality) and could thus artificially and wrongfully impact the EVA very negatively. Febeliec strongly urges to remove the impact of the price cap altogether based on the cited arguments, and if Elia were not to follow such approach to at least adapt the current proposal to a more realistic model.

On the study by Professor Boudt, while Febeliec does not want to undermine the potential merits of the theoretical analysis as such, Febeliec wants to refer to its comments above on the EVA and wants to indicate that it considers that the study by Professor Boudt, however interesting in itself, only covers a very small facet of the overall picture, as it omits several key elements, such as forward market revenues and hedging, risk averseness of consumers, suppliers and BRPs, portfolio effects, lifetime economic viability, etc. Moreover, Febeliec also wants to refer to its above-mentioned comments on the WACC versus the real return on equity for investors, the risk averseness of other actors and the implications through hedging over forward markets for revenues for investors as well as the fact that the legal and regulatory uncertainty cited will not always negatively impact investments. Furthermore, Febeliec strongly wonders what is the inherent difference between investments in the electricity sector and other markets, as apparently this issue only seems to play in the electricity sector in Belgium. Indeed, all investments and investors in other segments and markets encounter the same or similar issues, yet however without resulting in such claimed apparent issues. While electricity as a product might by its nature introduce some additional complexity in market functioning (due to the lack of storage capacity), Febeliec does not see how this would have an inherent impact on investment risk, model risk, policy risk, WACC, ... The only potential difference Febeliec can observe in comparison with most (but not all) other segments and markets is the non-normal distribution of revenues due to extreme price spikes, which however over the lifetime of assets should be included with a probability. In particular as (explicit) price caps, as discussed above, have in effect been abolished, while the implicit price caps referred to by Professor Boudt rather seem Febeliec a theoretical approach as market parties trade most of their electricity in an evermore interconnected and competitive market. In case it is considered that such implicit price caps should play a major role in Belgium, Febeliec insists on concrete data and cases. In any case, Febeliec, as already stated before to Elia, strongly opposes to apply an EVA based on a model with a 3000 €/MWh price cap, as this price cap has become in effect obsolete in Europe and even though theoretically this could have an impact in a very discrete instance, this can in no way have an impact over a longer period and thus at most only marginally impact overall revenues of an asset over its lifetime and should as such thus be completely discarded. Moreover, and based on the approved methodologies of ERAA/VoLL/CoNE/RS, it is clear that when one takes into account all price-sensitive demand reacting to market prices as flexible demand (especially with no effective price caps as discussed above) and a segmentation of consumers with different VoLL per category (with several segment having a lower VoLL than the average calculated single VoLL of the system), it is clear that in the future, especially with an evermore advanced roll-out of smart meters, supply and demand curves will by definition always cross and as a result real adequacy issues due to the inability of consumers to indicate their willingness to pay should no longer occur. The resulting price spikes, while no longer leading to involuntary curtailment, will then provide sufficient investment signals to all potential investors.

On the consulted excel spreadsheet of the A&F Study 2022-2032 with the central scenario and data, Febeliec would like to make following comments:

- In general, Febeliec wants to insist that next to the central scenario, it is also very important to investigate a range of sensitivities and other scenarios, in order to guarantee to have a robust understanding of the adequacy implications of many of the data and parameters in the proposed spreadsheet. It is adamant to grasp to what extent some of these parameters could have a major impact on the outcome of the study. Febeliec provides a preliminary and non-exhaustive list of interesting sensitivities at the end of this document.
- On the **sheet 1.1** on the individually modelled thermal production, Febeliec understands that the granularity of the overview is on complete years. Will Elia apply a more refined granularity for certain categories of thermal units, in particular nuclear units as a formal calendar has been foreseen that does not coincide with calendar years. Febeliec also wants to refer here to its comments on sensitivities to investigate, a.o. with respect to the nuclear phase-out. Febeliec also wonders to what extent future thermal generation is taken into account, in particular for example policy-based new CHP units, as no units with a commissioning date after 2023 seem to be considered at all by Elia (although Febeliec as well as Elia are aware of several industrial projects in varying states of advancement, which however over the course of the next decade should come to fruition with firm investment decisions sometime in the near future, at least for several of them). Furthermore, Febeliec has no comments on the specific units presented, but reiterates a longstanding comment on the lack of transparency on the announced (temporary) closure of power plants in Belgium.
- On **sheet 1.2** on renewable production and non-CIPU units, Febeliec has at this point no specific remarks on the proposed PV and wind capacity (onshore/offshore)<sup>1</sup>. With regard to the biomass and waste categories, Febeliec notices that Elia has opted to apply a flat level for the period 2020-2032. Febeliec wonders whether such assumption is realistic and wants Elia to provide more background for this assumption. Is this based on a detailed analysis by Elia, based on governmental declarations and national/regional plans or just a flat approach as this point has not been investigated at all? During the consultation on the input data for the Strategic Reserve for winter 2021-2022, Elia still had foreseen a steep decline, which has now disappeared, however without any clarity and transparency on the underlying assumptions and changes since that consultation. Moreover, Febeliec is very surprised to see that for gas CHP non-CIPU no increases at all are expected over more than a full decade, which seems rather strange in light of e.g. existing or discussed incentive schemes or tariff regimes for small (shared) cogeneration facilities as well as ambitious governmental declarations and targets towards 2035. Moreover, Febeliec also wonders whether several industrial investment projects are taken into account also from the side of generation, as Febeliec does not see much new generation capacity at industrial location included in the data, either profiled or individually modelled thermal production (see comment above on sheet 1.1 also, except for Borealis Kallo and Indaver E-wood). Febeliec thus wonders whether Elia considers that no additional capacity will be installed at all over an entire decade and if so, Febeliec insists that Elia then makes a very clear assessment on the drivers for the increase in total electricity demand, split over all individual segments (in particular for example industrial demand increases without any increases in local production) in order to warrant this assumption (see also below). Febeliec also wonders why the gas non-CHP non-CIPU and other categories that have been applied before by Elia have disappeared from the analysis and would like to know whether Elia has integrated these categories in other categories, considered them under a different segment in this spreadsheet, simply removed (and for which reason) or forgotten.
- On **sheet 1.3** on storage, Febeliec is surprised to see that for pumped storage no increases in reservoir volume (or even capacity) are taken into account, in light also of specific investment projects that are on-going (and not even taking into account future such projects over the next decade, as clear tariff incentives exist to incite such investments). On other storage, Febeliec appreciates the effort done by Elia to provide better insight in its assumptions on this segment as compared to previous adequacy assessments. Febeliec has several remarks and questions towards the proposed file. For small scale storage, Elia states that *“estimations are based on the assumption that each year 0.5% of the PV installations add a battery capacity of the size of the PV installation (with 3 hours of storage)”* yet it remains unclear whether Elia this approach only for existing installations or also for new-build installations. Especially for the latter, also taking into account the roll-out of smart meters and tariff incentives, Febeliec considers 0,5% to be an extremely low value and asks for a detailed argumentation. Febeliec also asks for transparency on the reasoning to apply a reservoir of 3 hours of capacity.

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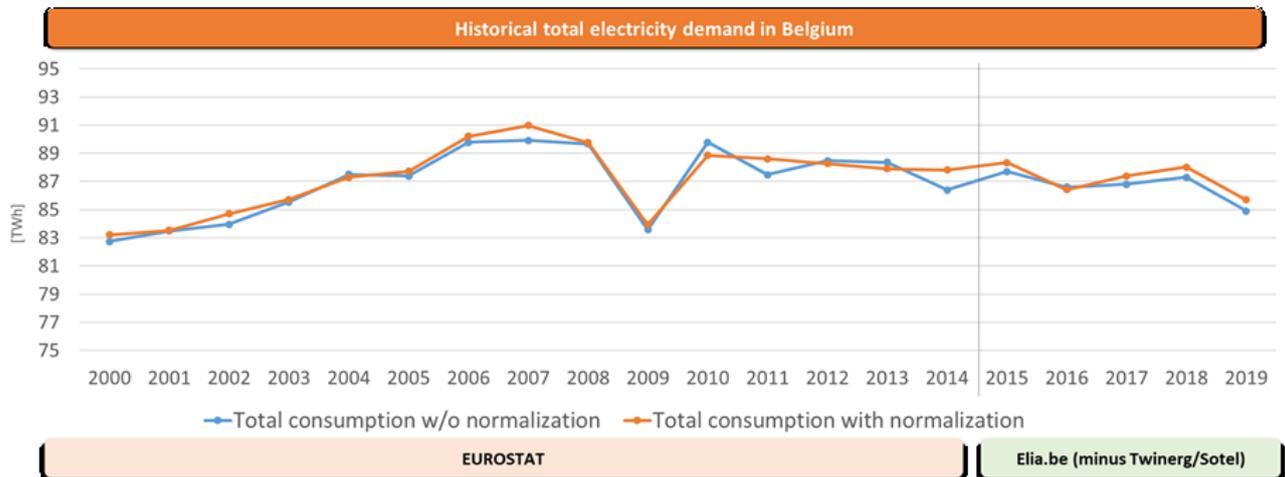
<sup>1</sup> Febeliec however wonders to what extent previous comments (e.g. on the input data consultation for the Strategic Reserve 2021-2022) on the (extreme) divergence between Elia databases on installed capacity and governmental official numbers (with discrepancies of over 350 MW, with governments underestimating apparently installed and operational capacity) have been resolved and are taken into account in the provided numbers. In particular if the future values are based on governmental forecasts and ambitions, it is important to guarantee that the starting values for the assessment are not below real installed capacity as this could have a severe impact over a longer decade when expected growth rates are applied to extrapolate future installed capacity.

For large scale storage, Febeliec is surprised to see that the numerical values for capacity and reservoir volume are identical and wonders whether Elia intended to imply that all these installations will only be able to provide their maximum capacity for the period of just one hour (as opposed to small scale storage which would deliver during 3 hours), which does not seem very realistic to Febeliec. Here also Febeliec asks for more clarification and transparency on the reasoning of Elia. On vehicle-to-grid storage, Febeliec would like to see a clear curve on the percentage that Elia is considering to react to electricity prices in each of the years, in order to see how Elia sees this evolution linked to a.o. the accelerated roll-out of smart meters in Belgium. Last but not least, Elia states that *“the evolution of total capacity for other storage facilities is assumed to reach the 2030 target from Energy Pact”*. While Febeliec has in consultations regarding every adequacy assessment by Elia always expressed its reserves regarding the quantitative base of the values provided in the Belgian NECP (which has in the mean time received a wide range of comments by the European Commission, strengthening Febeliec’s reticence to blindly apply these values instead of a thorough bottom-up analysis), an issue which has not yet been resolved apparently even in this consultation, Febeliec can under no circumstance accept that Elia, after seemingly applying a strong growth rate for storage in the period up to 2030, for the period post 2030 estimates this value to be constant. Even though it could be argued by some that such estimates far out in the future might be less relevant in any case, according to Febeliec this yet again shows clearly the intrinsic flaws of the approach currently applied by Elia. Febeliec strongly regrets that even though these comments have been made so many times on various consultations, Elia has still not elaborated a sound quantitative model for this assessment. Febeliec finds this lack of action from Elia rather strange and in any case not up to standards.

- On the **sheet 2.1** on total electricity demand, Febeliec is very negatively surprised to see that Elia only provides historical data for 2019. As can be seen on the graph below, provided by Elia in May 2020 and publicly presented by Elia, total electricity demand in Belgium was in the last decade up to 2019 in clear decline<sup>2</sup>.

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<sup>2</sup> As can be seen in the graph, the 2008 financial crisis, which was the major economic crisis in the current millennium with substantial global economic impact, shows a clear drop of more than 6TWh (or around 7% of Belgian consumption) in the wake of that crisis. A decade later, Belgian electricity demand has still not regained pre-2008 levels (with a.o. 2019 showing even a continued decrease in overall demand, reaching a level that was last seen in 2002, despite a substantial increase in Belgian GDP over that period). While the underlying reasons for this observation are beyond the scope of this consultation (e.g. impact of energy-intensity of GDP-growth, impact of energy-efficiency measures, ...), the trend can be clearly observed. Important in the light of the current covid-19 crisis, which will presumably have a much more pronounced effect on the global economy, is that it would be imprudent to non take into account such impact on Belgian electricity demand, also when looking a decade ahead and especially in the first years of the analysis.



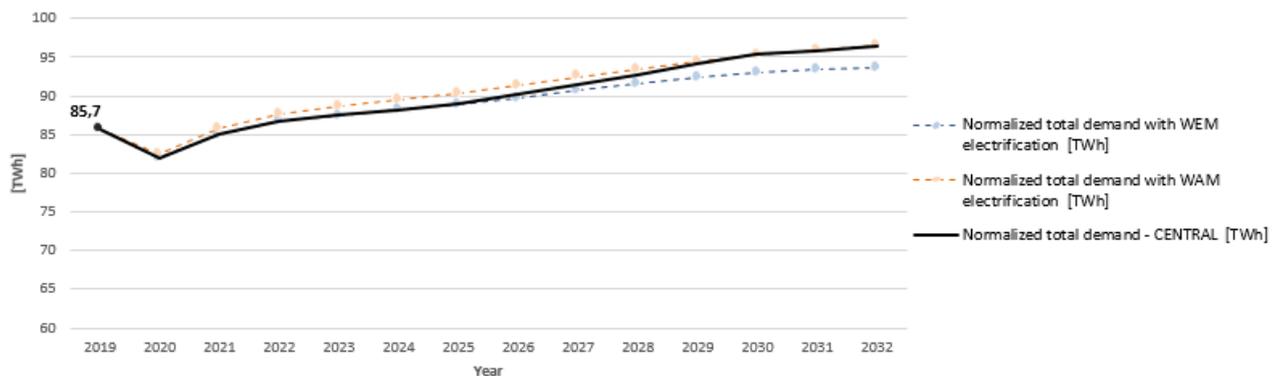
The historical data sources are indicated on the chart.  
 For the normalization, Elia applies a simple linear method based on the equivalent HDD, 'jours ouvrés' and amount of days in the year (correction for leap years).

The normalization methodology is currently under review at Elia and could lead to slight differences in the historical normalization values. It is also important to note that the data above were never normalized before 2010 and that the same impact is used for the whole horizon.

In past studies other sources have been also used for historical data (ENTSOE.net for instance) where the same definition of consumption was used across all countries. Since the introduction of a common tool at ENTSO-E (since MAF2019), the consumption source for future studies will be the one published on the Elia.be website which represents an estimation of the 'total electricity consumption' of Belgium.

Figure 1: Belgian electricity demand 2000-2019 (source: Elia, received 27/05/2020)

As presumably needs no further clarification, as of 2020 the world has entered in probably the worst global economic crisis in post-war history as a result of the Covid-19 sanitary crisis. Elia itself during the first wave in S1 2020 presenting values that dropped up to 25% at some moments, and with a second wave now also in the mean time creating additional economical damage. Moreover, it is also ever more clear from general economic reports that this sanitary crisis will continue to wreak havoc in future years, both in the level of growth (or lack there of) as well as the starting point for the growth curve (if the crisis further severely impacts the basis of the economic tissue of the world economy). As such, Febeliec is surprised that Elia proposes following total electricity demand growth path in the spreadsheet:



While Febeliec is not at all convinced that the 2020 decline in total electricity demand by Elia is a correct representation of the situation (in particular if one takes into account the impact of the much less globally impacting 2009 financial crisis on total electricity demand as can be seen in the first figure), Febeliec is very surprised to see that Elia estimates that total electricity demand over the next decade spurts to never seen absolute levels (above 95 TWh), levels not even seen in the economic boom years of the beginning of the millennium (the highest level being reached in 2007, even before the financial crisis) and this despite a very strong focus on energy efficiency in ever more consumer segments. Febeliec a.o. observes that Elia estimates

that in 2023 total electricity demand will be 87,5 TWh, or 1,8 TWh higher than 2019, despite the covid-19 crisis which has reduced Elia's estimate for 2020 to 82 TWh. Febeliec wants to stress that it is surprised that Elia has not modified any of its data since the consultation on the input data for the strategic reserve 2021-2022 as in the mean time it has become clear that Belgium is hit quite hard in S2 2020 with a second wave in the Covid-19 sanitary crisis, resulting yet again in a lockdown with an impact on overall electricity demand, an element nevertheless not taken into account by Elia. Febeliec also regrets that Elia provides values on electric vehicles and electrification of heating based on the NECP (for which Febeliec also refers to previous comments on the lack of transparency on the quantitative modelling of the NECP as well as the lack of an update after the many comments from the European Commission), yet omits to provide a calculation in equivalent electricity demand. Moreover, Febeliec also wants to reiterate its comment and question on the split of the steep increase of total electricity demand by Elia over the different segments, in order to be able to see which increase Elia expects a.o. for industrial consumption, as Elia has a.o. not taken any additional CHP or other industrial installations into account after 2023. Febeliec regrets that Elia, despite numerous requests and the above comments, which have been voiced many times, has still not provided a more detailed analysis that goes beyond the blackbox approach applied for this A&F Study.

- On **sheet 2.2** on Demand Side Response, Febeliec would like to understand what is now according to Elia the difference between Demand Side Response and Market Response, the concept it has introduced in its previous A&F Study and adequacy assessments since then. Febeliec wonders to what extent these concepts are interchangeable for Elia. Febeliec has noticed that Elia is now treating (non-pumped hydro) storage as a separate segment, which was previously seemingly integrated in the category Market Response (at least for small scale storage, the categorization of large scale storage and vehicle to grid storage always having remained vague). While Febeliec does not oppose splitting up market response in its different segments, as it greatly increases transparency, it now remains with questions regarding small scale generation, for example on sites of industrial consumers. Where does Elia treat small scale CHPs, diesel generators<sup>3</sup>, process-driven generators, emergency generators and batteries (which can also contribute to system adequacy in times of system stress), and various other types of assets that are not individually profiled by Elia yet can in a combined way have an enormous impact on overall offtake from the grid. As stated above, Febeliec does not oppose the better segmentation by Elia, yet would like to get full transparency and clarity on how Elia is defining "Demand Side Response" in order to avoid that some categories are omitted from the analysis and thus unduly negatively affecting Belgian system adequacy as determined by Elia in this analysis. Moreover, Febeliec still regrets, as already discussed numerous times, that Elia has yet again opted to take a yearly annual increase of demand side response of only 7%, whereas the last year according to the update of a study commissioned by Elia from E-Cube<sup>4</sup> shows an increase of over 20%. The increase taken into account by Elia does according to Febeliec not take into account a.o. the impact of the roll-out of smart meters or new tariff schemes as it is only looking at historical trend lines. Febeliec thus urges Elia to include at least an additional sensitivity with a higher growth rate of market response, in order to be able to assess the sensitivity of the outcome based on this input parameter and to ensure that the methodology follows the guidance given by the ERAA methodology. Moreover, and yet again as already stated on numerous occasions before, Febeliec would like to point out that volumes available for market/demand response are essentially determined by the (expected) occurrence of peak prices, as most of these volumes are only triggered by high prices (typically above 450-500 €/MWh). Historic figures are thus definitively not the only reliable indication of available volumes of market response, unless they are clearly linked to the effective occurrence of peak prices. Last but not least and in line with the comment made on storage, Febeliec is appalled that post 2030, Elia suddenly sees no increase whatsoever in Demand Side Response anymore. Even though, as for storage, it could be argued by some that such estimates far out in the future might be less relevant in any case, according to Febeliec the data set provided by Elia clearly the intrinsic flaws of the approach based on the Belgian NECP currently applied by Elia.
- On **sheet 3.1** on fuel and CO2 prices, Febeliec insists that Elia conducts a thorough sensitivity analyses on these parameters, as they can have an enormous impact on the outcome. Febeliec takes note that Elia takes into account the data from the World Energy Outlook 2020 (WEO2020) but asks that Elia at least performs an assessment on the data from the WEO2020 in order to ensure that these figures, as they are greatly influential for the analysis, duly take into account the latest possible information and trends, not in the least related to the Covid-19 sanitary crisis, not only on demand (as mentioned before) but also on oil, gas, coal, CO2 prices,

<sup>3</sup> Febeliec already made comments on the missing of this category in the past, as this entails a severe underestimation of existing capacity in Belgium. Already only the Febeliec members have literally hundreds of MWs of diesel generators currently installed in Belgium. By not taking these volumes into account, Elia unduly overestimates any possible adequacy concern in Belgium

<sup>4</sup> Febeliec wants to stress that it still has several fundamental issues with the methodology applied by E-Cube and has not formally accepted the methodology applied by Elia.

which have all fallen to consistently lower levels, and their impact (the IEA has in its Global Energy Review 2020 already highlighted some of the impacts of the covid-19 crisis on global energy demand CO2 emissions, which clearly shows the extreme impact, far beyond the scope of a.o. the 2008 financial crisis).

- On **sheet 3.2** on investment costs, due to lack of time allowed by the consultation period, Febeliec cannot at this point provide an in-depth review of all assumptions made by Elia in this table. However, Febeliec would like to raise following preliminary comments and questions regarding to the provided data. On new demand response, Febeliec is surprised to see that FOM costs are according to Elia quadrupling when volumes increase. While Febeliec could have certain understanding for a modelling approach where one assumes that after the low hanging fruit has been activated as demand response costs could increase, Febeliec cannot follow an approach where it is assumed that the FOM costs explode to the levels provided by Elia, without a very clear understanding why this would be the case. Febeliec in this context explicitly refers a.o. to the roll-out of smart meters, which should enable a much larger share of Belgian demand to provide its flexibility without significant additional costs for those consumers (as the costs of the obligatory roll-out of smart meters is covered through other mechanisms and as such does not constitute any additional costs for consumers to use their flexibility). Febeliec strongly urges Elia to revise this section or provide much more transparency on its reasoning (the only references are made to French examples, which are not directly transposable to Belgium in any case because of too many inherent system differences, a.o. especially in low voltage grid tariffication). Febeliec is also surprised that Elia provides data for a new unit in Coe, yet does not include any increase in pumped hydro storage whatsoever (not related to a new unit nor to an extension of the storage reservoir for existing units). On RES, Febeliec is surprised to see that Elia estimates CAPEX costs for new offshore wind to be/remain very high, as is the same for PV and onshore wind, whereas Febeliec has understood from numerous studies from many sources that those costs are expected/predicted to go down considerably. As a result, Febeliec would expect that these cost curve effects over time are taken into account by Elia, which does not at all seem to be the case (the same comment is valid in general for all technologies on this sheet, but in particular to RES and also presumably storage). Febeliec insists that Elia provides clarity on this aspect.
- On **sheet 3.3** on (forced) outage rates, Febeliec remains surprised of the very high values for some categories (e.g. CCGT, GT, Classical). Especially with the closure of assets over time, most of them presumably the oldest assets in their respective categories, it seems strange that by removing those older assets, which are presumably also more prone to outages due to aging of the asset, the forced outage rate remains high (and higher than those applied in the past). As also already voiced during the Task Force ISR of 31/08/2020 and the consultation on the Strategic Reserve, Febeliec yet again strongly urges Elia to reconsider its current approach with a statistical quantification on historical data per category, as this approach could lead to ever increasing deviations towards the future, especially if in some categories in the future large volumes of newbuilt capacity were to be added. Febeliec suggest for example an approach where the historical data is filtered for those units that Elia deems to remain in the system, thus excluding the outages of units that have been or will be closed in the timeframe of the current analysis, as the outage rates of those units presumably is less relevant for the analysis. Alternatively, but more complex, the outage rate of the remaining and new units could be taken into account with the application for each year of an aging factor on their outage rates (which could lead to higher outages for those units in the future compared to their outage rate in the past), which Febeliec thinks could really provide additional information over the decade long scope of this analysis. In any case, Febeliec would for example like to get a better understanding on how the availability of nuclear plants is calculated, as with the expected closure agenda of these units (a limited set of discrete plants) and the (very) different performances of individual units, as well as the major impact of the difference between outages because of technical incidents or long term investment programs coming to an end and no longer negatively impacting future availability (but presumably impacting them positively), more precise and elaborated analyses and related transparency seem required. On the impact of planned outages, Febeliec would like to get a more thorough analysis of the way Elia will calculate this for years beyond the timeframe of REMIT, as the methodology presented by ENTSO-E remains a blackbox, with however potentially significant impact for Belgium.
- On **sheet 3.4** on flexibility characteristics, Febeliec regrets that due to the very limited time allowed for this consultation, it is difficult to thoroughly validate the provided data. However, Febeliec will provide some non-exhaustive and preliminary observations and remarks. Febeliec is surprised to see that for nuclear, no data is provided on flexibility, although it is known that the Belgian nuclear plants have increased in recent years their possibility for modulation. Febeliec would expect this to be taken into account (a.o. also related to a sensitivity on nuclear extension). Moreover and as already stated before, Febeliec regrets that CHP is only to be considered existing/old CHP with flexibility similar to that of old CCGTs, whereas no new CHPs are considered with potentially improvements in the flexibility characteristics of such units. For demand response, Febeliec

wonders why only a CAT-4H is mentioned and not the other categories; does Elia consider all other categories of demand response not to provide any flexibility? On interconnectors, Febeliec refers to the comments made elsewhere in this document.

- On **sheet 4.1** on flow-based domains, Febeliec wonders what will be the external constraint for Belgium in 2021 and would like to see which, if any, is the impact of a.o. the entry into service of ALEGRO and the HTLS upgrades on the Elia backbone on the flow-based domain as well as the external constraint. Moreover, Febeliec would also like to get an assessment by Elia of the impact of the switch from standard hybrid coupling to advanced hybrid coupling. The same applies to use of PSTs in capacity calculations. While Febeliec welcomes the fact that Elia will apply half the PST positions for the capacity calculation, it wonders why this is limited to only half and not extended any further as well as why this remains limited to one third for all other countries. Furthermore, as the study looks 10 years ahead, Febeliec wonders how potential projects proposed in the Elia TYNDP (Nautilus, Alegro II) are taken into account (making even abstraction of all other announced and reflected upon interconnectors within the interconnected grid that are or will be realised in the next decade). The same applies to all the enormous further grid improvement and extension projects Elia has planned on its backbone grid as well as the underlying grids in the next decade. Febeliec in any case appreciates that Elia will correctly apply the minimum 70%minRAM rule following out of the Clean Energy Package, with application of action plans and derogations, but with guaranteed minimum 70%minRAM on all CNECs as of 01/01/2026. Febeliec would also like to get a better understanding on what will be the impact of the extension of flow-based market coupling to the entire CORE region and the impact hereof on Belgium.
- On **sheet 5.1** on data for other countries, Febeliec currently has no preliminary comments, as some of the relevant reports, most notably the MAF 2020, are currently not yet available. Febeliec also wants to reiterate its longstanding comment on the composition of the PLEF. As long as consumers and other market parties (other than producers and traders) are not welcome in the discussions on the generation adequacy study, Febeliec continues to insist that this report is skewed and not sufficiently taking into account other sources of flexibility than (large-scale) generation assets and as such is not necessarily a correct interpretation of reality.
- Febeliec is surprised that Elia has no longer provided a sheet on balancing volumes and their impact on available flexibility for the market. Febeliec asks that this topic be treated at least in the report, but would have liked to see here an indication on how Elia intended to treat this topic from a methodological perspective, as in previous assessments a lot of discussions were held on this topic. Moreover, Febeliec has understood that Elia is intending to greatly alter its market design in the near and medium future (and thus in the scope of this A&F study), with potentially significant impact on the reservation of balancing capacity. Last but not least, with the rapid approach of the European platforms for balancing, most notably MARI and PICASSO, with Belgian participation expected in the following years, Febeliec would like to get a real grasp on the impact hereof for Belgium, including on adequacy (as there could be an impact on the availability of flexibility for the market instead of being reserved by Elia for balancing purposes).
- Febeliec regrets that Elia does not conduct a consultation on the methodology itself and thus wants to use this consultation to reiterate its position on the (past but maybe also current) methodological approach of increasing the margin and/or strategic reserve volume by blocks of 100MW in the iterative process for the determination of the potential required volume. For Febeliec, a finer granularity than 100MW should be used, as even the lack of 1MW under the current approach would immediately lead to a need of 100MW additionally. Applying a finer granularity would avoid sourcing unneeded volumes. Alternatively, an approach could be implemented where very marginal transgressions of the LOLE criterion do not automatically lead to an increased contracting of strategic reserve volumes, through the application of a deadband, taking into account the multiple layers of sensitivity already applied by Elia in combination with low probability, high impact scenarios, which already skew all the results towards a very conservative approach. For Febeliec, it should in any case be avoided to increase the cost for the grid users unnecessarily by following a much too conservative approach.

## Sensitivities

Febeliec insists that Elia assesses a wide range of sensitivities on its study, in order to ensure that stakeholders and decision makers get a clear view on the impact of certain design choices or policy decisions. Febeliec provides a non-exhaustive preliminary list of sensitivities that should at least be looked into. However, as discussions evolve, also during workshops on the A&F Study and other adequacy assessments, it is clear that additional useful sensitivities might arise in the future that should also be included in this study.

- As already stated before, and as also seems to follow from European legislation, regulatory documents, decisions and communications, HiLo (high impact low probability) analyses like Elia performed in the past seem to have at least to be modified in order to be in line with aforementioned legislation, regulatory documents, decisions and communications.
- Febeliec also insists that any sensitivities are in line with the aforementioned legislation, regulatory documents, decisions and communications, in particular the ERAA methodology. This implies that sensitivities can only be added on a national level in a NRAA and not cover elements in other countries (which have to be covered by those countries in their NRAAs), especially in case such countries have their own capacity remuneration schemes (in the market or out of the market). Febeliec in this case thinks a.o. on French nuclear availability, which Elia has always considered explicitly in its own assessment, but which is not in line with ERAA (and in any case omits the fact that France has an operational CRM in place). The same applies for all other national scenarios on mothballing or decommissioning of assets in other countries (such as previously used low gas scenarios, where Febeliec always indicated it considers also high gas scenarios to be relevant), as these are to be covered by those countries (many of which have functional capacity remuneration mechanisms, in or out of the market).
- On total electricity demand, Febeliec refers to its above mentioned comments on the excel spreadsheet and the impact of the Covid-19 sanitary crisis, for which Febeliec deems it necessary to include several sensitivity scenarios. Febeliec reiterates that it considers it unrealistic to imagine that Covid-19 would not have any effect on Belgian electricity demand in light of the unprecedented drop in global economic activity, also in Belgium and even more so in light of the currently on-going second wave with additional impact on the economic climate and even potential future waves before the Covid-19 sanitary crisis can be fully contained and economic activity recover to pre-crisis levels. As can be seen from the above-presented Belgian electricity demand data 2000-2019 provided by Elia<sup>5</sup>, electricity demand dropped very sharply in the aftermath of the 2008 financial crisis (minus 6 TWh or around 7%), which showed a less pronounced reduction in economic activity than can now already be observed by the non-ended covid-19 crisis, with a recovery afterwards that still has not reached in 2019 the pre-2008 level (still more than 3,5 TWh down compared to 2008 levels). Febeliec insists to add at least two times two new sensitivities. A first additional sensitivity set could be to take the impact of the 2008 financial crisis as a proxy (so a drop of 6TWh in overall Belgian electricity demand based on the provided demand data from Elia) and then have two variations on this, one with a V-shaped recovery (as after the financial crisis of 2008, yet also there with even a decade later still electricity demand levels that are several percent lower) and one with a much slower recovery (to mimic the impact of at least the current second wave and potential further waves of Covid-19 or other effects that could generate additional damage to the economic tissue, with increased ripple-through effects over the next decade). A second sensitivity set would then contain two similar sensitivities, but based on a much more pronounced drop in electricity demand in 2020 (e.g. -10 TWh). In any case, Febeliec urges Elia strongly to include several sensitivity analyses on overall electricity demand, at least also with smaller growth paths as currently considered, as overestimates in total electricity demand will automatically lead to overestimated needs for (flexible) capacity and thus unnecessary investments in Belgium, both for adequacy and maybe even for flexibility purposes. As already stated before, Febeliec is surprised to observe that Elia currently considers total electricity demand in Belgium over the next decade to reach unprecedented levels, which Febeliec considers completely unrealistic.
- Febeliec insists on the inclusion of a sensitivity with the extension of 2GW nuclear capacity in Belgium, as this is also an option considered in the federal governmental declaration.
- On demand side response and as argued above, Febeliec insists that Elia includes a sensitivity with a higher growth path than the currently applied 7% year-on-year, a.o. in light of the acceleration of the roll-out of smart meters, tariff incentives and other market design changes in the next few years. Febeliec is greatly convinced that a paradigm shift will occur in the near future, with ever more demand becoming price sensitive, thus greatly increasing the price elasticity of the demand curve. Febeliec has understood that Elia also sees such future, with numerous projects aimed exactly at such evolution and would it thus find very strange that no impact were to be considered by Elia<sup>6</sup>.
- Febeliec also insists, as already discussed above, that Elia includes sensitivities on new generation capacity in Belgium not linked to the instauration or not of a capacity remuneration mechanism, in particular for example new CHPs (or other policy or industrial demand driven assets), for which Elia post-2023 does not foresee any

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<sup>5</sup> with very little fundamental differences between normalised and non-normalised data, other than normalised data on average slightly overestimating real electricity demand

<sup>6</sup> In case Elia would consider its as well as other parties projects not to deliver any additional value, Febeliec would suggest to abolish them all in order to avoid unduly increasing costs for consumers by financing irrelevant projects

additional units (yet presumably increase total electricity demand in Belgium based on new industrial demand units because of the very high growth rate of total Belgian electricity demand over the next decade).

- Febeliec also asks, as also mentioned above, to include some sensitivities on fuel and CO2 prices, as these could have a very high impact.

Febeliec as always remains available to discuss its comments to this consultation on the methodology and the input data. Febeliec is looking forward to the mathematical results of the adequacy and flexibility studies from Elia, as input for the public debate on technological and policy choices.