



# **Strategic reserve for winter 2017-2018:**

**Answer to the public  
consultation on methodology,  
hypotheses and data sources**

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# 1.Introduction

The consultation aimed to receive any comments of market participants on the methodology, assumptions and data sources to be used for the strategic reserve volume evaluation for winter 2017-2018. The consultation period was set from Tuesday May 31<sup>st</sup> to Tuesday June 28<sup>th</sup>, 2016, 6:00pm.

Elia received 8 answers to the public consultation:

- CREG
- EON
- FLUXYS
- EDORA
- FEBEG
- FEBELIEC
- EDF
- RESTORE

The feedback and the answers by Elia System Operator ("Elia") are grouped in 8 categories in this document:

- Market Response
- Flow Based
- Model
- Data
- Assumptions
- Forced Outages
- Transparency
- Out of Scope

All relevant information to this consultation can be found on the following Elia webpage as from Monday August 1, 2016:

[http://www.elia.be/en/users-group/Working-Group\\_Balancing/TF\\_Strategic\\_Reserves\\_Implementation/Public-consultation](http://www.elia.be/en/users-group/Working-Group_Balancing/TF_Strategic_Reserves_Implementation/Public-consultation)

The results of this consultation will also be presented during the Task Force implementation Strategic Reserve of September 19, 2016.

Note that an additional consultation on the input data used for the calculation will be organized when this data will be available for Elia (estimated for the month of September).

## 2. Questions on market response

### **Comments from stakeholders:**

Een tweede opmerking betreft de hypothesen voor market respons. Elia wenst bij de volumebepaling voor de strategische reserve voor de winterperiode 2017-2018 gebruik te maken van de resultaten van de studie gerealiseerd door Pöyry in 2015. De CREG meent dat de evolutie van market respons een regelmatige update vereist en vraagt Elia dan ook om de resultaten voor de market Response uit de Pöyry –studie te actualiseren.

[CREG]

*It is difficult to understand and assess the level of the available volume of market response, as it depends on market prices and spreads. If the value of market response is not sufficiently high in the market, industrial companies will not wish to invest in the equipment and technology - that is required to participate with demand response in the market - without a support mechanism (cfr. SDR/R3DP) to cover the investments' costs.*  
[FEBEG]

*EDORA souhaite attirer l'attention d'ELIA concernant les résultats de l'étude Poyry, pour lesquels il existe une importante incertitude. Une analyse plus pointue de l'élasticité de la demande à l'évolution des prix serait utile pour mieux estimer le volume disponible. L'enquête réalisée à partir d'un questionnaire adressé aux consommateurs permet de se faire une idée, mais est loin d'être suffisant. EDORA soutient dès lors toute démarche qui vise à affiner ces résultats.* [EDORA]

*Cependant, l'étude menée par Poyry, en vue d'estimer le volume flexible disponible ne permet pas de se faire une idée précise de la manière dont les limitations interviennent dans le modèle* [EDORA]

*As mentioned last year we want to caution Elia regarding the results of the Poyry study (4.2.11). These are not based on the actual measurement of the elasticity of demand to prices but on a questionnaire send to the TSO connected consumers of "what would you do if prices where very high". There is a large uncertainty associated to the results of such a study. A specific study on the price spikes of last September and October would be advisable to confirm or infirm the results of the Poyry study. The CREG report on those events already provides a partial view on this topic and could be extended to cover the question above.* [Restore]

### **Answer from Elia:**

The study made with Pöyry gives an overview of the current market response that could be activated by the different grid users, ARPs and aggregators when prices are high and therefore before prices reach the scarcity value of 3000€/MWh in Belgium.

In order to have the most recent data for the next winters, Elia and Pöyry will update the study during summer 2016. Note that the results of the study contain both the volume of market response and limitations on this volume (e.g. maximum activations per day). The updated results will be part of the consultation non data that will take place during the month of September. The limitations of the market response are taken into account in the model as described in the previous report (see chapter 3.2.4 of the previous report for winter 2016-17).

For the longer term (beyond the calculation for winter 2017-2018), Elia will also look into other methodologies for assessing demand side response.

### 3. Questions related to flow based

#### **Comments from stakeholders:**

*More flow based domains are needed [CREG]*

*Using only one flow-based domain (low wind and very cold) only reflect one specific winter condition: FEBEG recommends to use more types of flow based-domains or to verify with a reference capacity in the NTC methodology. [FEBEG]*

#### **Answer from Elia:**

Elia is working on a methodology to take into account more than one flow based domain in this analysis for winter 2017-18. It will be presented in the next Task Force implementation Strategic Reserves in the month of September and will be taken into account in the methodology for the volume determination for winter 2017-18 and will be clarified in the text of the report.

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#### **Comments from stakeholders:**

Met betrekking tot het *flow-based* domein, dat weliswaar in figuur 29 enkel ter illustratie werd toegevoegd en voor de volumebepaling 2016-2017 werd gebruikt, gaat de CREG ervan uit dat Frankrijk ook zou kunnen importeren uit Italië, Spanje Zwitserland en UK, zeker als de prijzen 3000€/MWh bereiken. Als Frankrijk 4000 MW importeert uit Italië en Spanje, is het voor de CREG niet te verklaren dat deze import naar Frankrijk de Belgische invoermogelijkheden negatief beïnvloedt (zoals uit de figuur 29 kan worden afgeleid). De CREG vraagt dan ook dat Elia dit verduidelijkt en desgevallend de methode aanpast.

[CREG]

#### **Answer from Elia:**

The flow based domain in figure 29 of the consulted document only reflects the CWE Net Positions, so import possibilities of CWE countries outside CWE are not shown. In the model used for the volume evaluation of strategic reserves (ANTARES) as well as in the day-ahead market coupling, France can import from the other countries within the limits of the ATC constraints (e.g. if France imports 4000 MW from Italy, Spain and Great Britain, it is not shown on the chart of the flow based domain as this only reflects the CWE net positions). This information is already explained in the report for winter 2016-17, paragraph 3.4.2, page 57.

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#### **Comments from stakeholders:**

*Elia considers the unavailability of units, but did Elia also assess unavailability of the grid? Is it realistic to assume that the grid is 100 % available? [FEBEG]*

#### **Answer from Elia:**

During winter period, no maintenance works are performed on the Elia grid. Moreover, long term outage of a PST or of a line was assessed in the previous report for winter 2016-2017. The same sensitivity will be assessed for the winter 2017-2018. This information is already explained in the report for winter 2016-17, paragraph 3.4.2, page 57.

### **Comments from stakeholders:**

Een andere opmerking betreft de importcapaciteit. Het document ter consultatie stelt dat er voor de winter 2016-2017 voor België wordt uitgegaan van een maximale importcapaciteit van 4500 MW. De CREG wenst dat Elia in de berekeningsmethodologie verduidelijkt wat de beperkende factor is die deze limiet bepaalt en dat ze de reden hiervoor omstandig uiteenzet. Verder stelt de [CREG]

### **Answer from Elia:**

There is a certain limit of import (not export) due to dynamic security constraints. This limit will be further clarified in the text of the report for 2017-18. Moreover, this value is monitored by the CREG and needs to be justified at all times.

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### **Comments from stakeholders:**

*flow-based* domeinen moet rekening houden, afhankelijk van de te verwachten situatie. In het kader hiervan wil de CREG dat Elia gedetailleerd beschrijft hoe ze de PST's gebruikt in haar berekening voor de volumebepaling, gezien dit een sterke impact kan hebben op het *flow-based* domein en bijgevolg op de beschikbare importcapaciteit.

[CREG]

### **Answer from Elia:**

The calculation of the flow based domain is based on the current CWE procedures and rules (as done in the day-ahead flow based domain calculation). For more information about this, please address it to CWE working groups (<http://cascforum.my-ems.net/>).

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### **Comment from stakeholder:**

*FEBEG is of the opinion that the applied methodology does not sufficiently allow to take into account congestion issues at local level mainly linked to onshore and offshore wind. Introducing the grid – and its constraints - as an element in the modelling could have a significant impact on the results. FEBEG is also wondering whether Elia assesses the re-dispatch possibilities in the event the whole stack is already used to cover the load?*

### **Answer from Elia:**

The flow based domain is calculated based on the day-ahead flow based algorithm. Local levels (<220 kV) are not taken into account for capacity calculation (only 380kV - 220 kV). Redispatching as remedial action has not been applied.

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**Comment from stakeholder:**

*What will be the impact of the new interconnection between Belgium and Luxembourg on the flow-based domain after its go-live? This should be clearly documented. [FEBEG]*

**Answer from Elia:**

The results of the impact assessment for this interconnector, which should provide an answer to such a question, are not yet known. Therefore, these cannot be taken into account for the calculation. For other questions related to this project and how it will be taken into account in the day-ahead flow based algorithm, please address it to CWE working groups (<http://cascforum.my-ems.net/>).

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**Comment from stakeholder:**

*How will the TSOs guarantee that the interconnection capacity will be used efficiently and in a non-discriminatory way? Certain days in September and October 2015 have demonstrated that Belgium can enter in to 'artificial scarcity situations' due to limited import capacities at the Belgian borders due to non-competitive flows. The impact of such flows – also at non-scarcity moments – should be quantified. [FEBEG]*

**Answer from Elia:**

The strategic reserve volume evaluation quantifies the moments when the prices in the day-ahead market in Belgium would reach 3000€/MWh due to scarcity. In those events, if only Belgium is in scarcity the maximum import capacity (in the limits of the flow based domain of that hour) will be given to the Belgian market.

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**Comment from stakeholder:**

*ELIA states that there is no guarantee that the different fall-back solutions will be accepted by other TSOs in the event of a scarcity situation in Belgium. This means that in reality the flow-based domain might even be more constrained. Therefore, FEBEG is of the opinion that Elia should also consider another scenario to take this potential limitation into account. [FEBEG]*

**Answer from Elia:**

Previous calculated domains were based on a joint study between TSOs and Coreso for the winter 2014-2015 and where the grid reinforcements for the next winters were added. Remedial actions considered in this study were approved by TSOs for that specific case. In a situation of scarcity, Elia cannot guarantee that those actions will be taken and accepted by TSOs. In the next calculation for winter 2017-2018, Elia will base its flow based domain on the historic observed domains.

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**Comment from stakeholder:**

*In the past months the high prices in Belgium appeared to be often caused by the activation of the intuitive patch. It is not clear whether this patch is taken into account or not in the reference flow-based domain. [FEBEG]*

**Answer from Elia:**

Activation of the intuitive patch happens only during the capacity allocation phase by Euphemia (algorithm that is used to calculate electricity prices for the day-ahead European Market Coupling). This has no link with the capacity calculation phase and the determination of the flow-based domain.

This is explained in the annex 16.12 of the Approval package on the JAO resource center. <http://jao.eu/support/resourcecenter/overview?parameters=%7B%22IsCWEFBMC%22%3A%22True%22%7D>

In the market clearing of ANTARES (tool used to determine the strategic reserve volume), no intuitiveness patch is implemented. This clarification will be added in the text of the report.

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## 4. Questions on the model

### **Comment from stakeholder:**

Ten slotte wenst de CREG een verduidelijking te bekomen van de berekening van de elektriciteitsprijs in het model en van de manier waarop de eenheden in de naburige landen zullen worden gesimuleerd (individueel of geaggregeerd; welke kosten en rendementen).

[CREG]

### **Answer from Elia:**

Each unit has an associated price in the model (price of producing 1 MWh of electricity). This price is based on the sum of:

- variable, operations and maintenance costs (VOM);
- fuel price;
- CO<sub>2</sub> emissions price.

The dispatch of the units is based on the price of each unit, the demand of each bidding zone and the possible exchange capacity between bidding zones. For every hour, the model optimizes the dispatch in order to minimize total system costs (cost of producing the electricity for the whole simulated perimeter). The electricity price in the model is calculated as the price of producing an additional MWh in each bidding zone.

Individual units are modelled in BE-FR-NL-DE-AT-LU. The rest of the countries are modelled with individual units aggregated per cluster (example: 4 units of CCGT for a total of 1600 MW. The model will then take into account 4 units of 400 MW). The reference costs used in the model can be found in the paragraph 4.4 of the Flexibility and Adequacy study for 2017-2027 made by Elia in April 2016 (see 4.4: [http://www.elia.be/~media/files/Elia/publications-2/studies/160422\\_ELIA\\_AdequacyReport\\_2017-2027\\_NL.pdf](http://www.elia.be/~media/files/Elia/publications-2/studies/160422_ELIA_AdequacyReport_2017-2027_NL.pdf)).

Each individual unit is taken into account with its efficiency. The aggregated units per cluster are divided over 3 categories (very old, old, new/recent). For each category different efficiencies are used. Those categories are exactly the same as used in ENTSO-E studies.

The pricing data have no impact on the adequacy of a country. When there is a structural shortage in a given country, all the available capacity will be dispatched (cheap or expensive).

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### **Comment from stakeholder:**

*How does the model spread the unserved energy on the constrained hours? Does the model distribute the volume over several hours - meaning that there are several hours taken into account in the LOLE - or does it put it all on one single hour? [FEBEG]*

### **Answer from Elia:**

The model optimizes every week in order to minimize the total system production costs of the given perimeter. Energy not served is priced at a very high value and is therefore minimized by the optimizer. If more than one hour is identified with structural shortage, the model will distribute the unserved energy volume over several hours.

This clarification will be further explained in the next report for winter 2017-18.

## 5. Questions on the data

### **Comment from stakeholder:**

*What is the level of energy is Elia considering of the pump storage facilities? As the unit is contracted to provide black-start service (and sometimes N-1), it is necessary to derate the generation level. Assuming that the full energy can be economically dispatched is too optimistic. [FEBEG]*

### **Answer from Elia:**

As explained in consultation document, a derating of total turbinning capacity of the pump storage facilities is taken into account. The total turbinning capacity of the pump storage facilities in Belgium is 1308 MW (Coo + Plate Taille). Given a derating due to unavailability, 1086 MW is taken into account in the model.

In terms of energy, the total storage capability for both Coo & Plate Taille accounts for approximately 5.8GWh.

(sources:

[http://economie.fgov.be/nl/binaries/Studie\\_inzake\\_de\\_mogelijkheden\\_tot\\_opslag\\_van\\_elektriciteit\\_tcm325-266795.pdf](http://economie.fgov.be/nl/binaries/Studie_inzake_de_mogelijkheden_tot_opslag_van_elektriciteit_tcm325-266795.pdf) , p25,

[http://corporate.engie-electrabel.be/wp-content/uploads/2016/04/160420\\_engie\\_centrales\\_coo\\_fr\\_web.pdf](http://corporate.engie-electrabel.be/wp-content/uploads/2016/04/160420_engie_centrales_coo_fr_web.pdf) ).

A derating of around 10 % of this total reservoir is taken into account in the model.

These data will also be published in the next report for winter 2017-18.

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### **Comment from stakeholder:**

*Het gebruikte model is gebaseerd op de historische gegevens van de 40 afgelopen winterperiodes. Vraag is hoe het effect van de huidige klimaatverandering in rekening wordt gebracht? Dit kan belangrijk zijn, daar de kans op extreme winters (ook zeer koude) volgens klimatologen sterk zal toenemen in de komende jaren. [EON]*

### **Answer from Elia:**

There is no evidence that climate change will lead to colder winters or more extreme winters in Europe. Scientific studies show both directions and there is no proof on this topic. One could argue the exact opposite of this statement looking back at the most recent winters. Using 40 historic winter periods allows modeling a large amount of climate situations to cover a large amount of possible situations.

**Comment from stakeholder:**

*Does ELIA consider a different load factor for onshore and offshore wind generation? What is the level of detail for the load factor assessment? Is it done per region? Does Elia take into account a simultaneous cut-off of wind parks in the event of too much wind in storm weather conditions? [FEBEG]*

**Answer from Elia:**

Elia considers load factors for wind onshore and wind offshore for each country modelled. The data used are computed by an external party for wind and solar (data are bought through ENTSO-E with a non-disclosure agreement). The computation is based on different climate variables (wind speed, temperature...) for a large amount of points in each country. It takes into account cut-off of wind parks in case of too much wind.

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**Comment from stakeholder:**

*Does Elia correct the realized load in France with the 'shed volumes' ('volumes effaçables') by the EJP ('Effacement Jour de Pointe')? On page 24 of its report, ELIA explicitly mentioned that the profile does not take into account the possible impact of demand response reaction to high prices but does not mention if this is already done for the French load profile. EJP should be properly taken into account like it is done in Belgium. [FEBEG]*

**Answer from Elia:**

Elia takes into account the EJP in France as written in the previous report on strategic reserve volume for winter 2016-17 ([http://www.elia.be/~media/files/Elia/Products-and-services/151202\\_ELIA\\_adequacy-report-FR.pdf](http://www.elia.be/~media/files/Elia/Products-and-services/151202_ELIA_adequacy-report-FR.pdf), page 48, paragraph 3.3.1). The volume corresponding to "effacements" taken into account was 3.2 GW (with no limits of activations) in the previous analysis. This volume will also be taken into account in the next studies based on the most recent RTE study.

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**Comment from stakeholder:**

De CREG stelt vast dat Elia voor de inschatting van de evolutie van het verbruik beroep zal doen op IHS CERA. Het lijkt de CREG nuttig om de voorspellingen die IHS CERA in het verleden maakte te vergelijken met de vastgestelde evoluties van het verbruik.  
[CREG]

**Answer from Elia:**

Previous forecast of IHS CERA was giving for the year 2015 a growth of the demand of +0.43%. This value was used in the calculation of strategic reserve volume. The resulting growth of the total normalised growth accounted for +0.58%, slightly higher than the IHS CERA forecast.

## 6. Questions on assumptions

### **Comment from stakeholder:**

*Op welke manier worden de volgende risico's op onverwachte stops van centrale productie-installaties ingecalculeerd?*

- a. Bankroet, faling van een operator/producent*
- b. Terroristische aanslagen*
- c. Wilde stakingen als gevolg van sociale onrust*

*Merk op dat risico's A en B nieuw, maar realistisch zijn: dus niet voorkwamen in het (recente) verleden.*

*Voor risico C, lijkt de kans dat dit zich voordoet, dan weer sterk te zijn toegenomen voor de komende jaren. [EON]*

### **Answer from Elia:**

The model used by Elia simulates the electricity market and models climatic uncertainty as well as forced outage and maintenance of units. The result is a probabilistic result based on those uncertainties. Additional sensitivities are performed in order to take into account long outage of grid elements or availability of nuclear units.

The risks listed in the question are risks that cannot be modelled (probability?, time of occurrence ?, impact on the production park and demand ?, ...) although those are risks that one should be aware of when taking into account the decision on the strategic reserve volume for the next winters.

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### **Comment from stakeholder:**

*Elia is assuming 100% availability of the units in strategic reserves which FEBEG considers too optimistic as these units are generally older and as cold units are more likely to trip. FEBEG is of the opinion that Elia should foresee additional volumes of strategic reserves to cover this risk. [FEBEG]*

### **Answer from Elia:**

Elia calculates the volume of strategic reserve assuming 100 % availability in order to fulfill the legal criteria in terms of security of supply. Strategic reserve are contracted in order to be available when needed. This is ensured by means of activation tests and penalties. This assumption and its implications are clearly mentioned in the previous report for winter 2016-17 (see chapter 1.3). This assumption will be clearly emphasized in the next report for winter 2017-18.

### **Comment from stakeholder:**

*Market conditions for traditional thermal power production in Belgium (and also neighboring countries) are not good and there are no signs these conditions are likely to improve. This will lead to further closures of power plants in both Belgium and neighboring countries. We therefore suggest Elia to take into account additional closures of production units on top of the already announced closures. Taking into account long term adequacy and the recent announcements on closures of production units we believe that the horizon beyond the winter of 2017/2018 should be considered and assessed.*  
[Fluxys]

### **Answer from Elia:**

The study will give an overview for the next 3 winters (2017-18, 2018-19, 2019-20). Note that according to the law, a unit has to announce its closure before 31/07/2016 for the winter 2017-2018. The available units in Belgium are therefore known prior to the exact calculation for the next winter. For neighboring countries, the latest available information on the status of the units is discussed with neighboring TSOs and based on their national adequacy studies. Note also that in the previous exercise a sensitivity on French capacity availability was performed (removing 2.3 GW of thermal units) in order to assess the impact on the Belgian need for strategic reserves. A similar sensitivity will be also performed for winter 2017-18 taken into account possible closures in neighboring countries.

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### **Comment from stakeholder:**

Een eerste opmerking betreft de verschillende interpretatie tussen Elia en de CREG over het LOLE-criterium. Het LOLE-criterium wordt in de elektriciteitswet gedefinieerd als "*Loss Of Load Expectation, met name de statistische berekening op basis waarvan het voorziene aantal uren wordt bepaald gedurende dewelke de lading niet gedekt zal kunnen worden door het geheel van de productiemiddelen ter beschikking van het Belgische elektriciteitsnet, rekening houdend met de interconnectoren, voor een statistisch normaal jaar*". Volgens Elia, is dit LOLE-criterium ( $\leq 3$ uur) het rekenkundig gemiddelde van de LOLE-waarden van alle gesimuleerde scenario's ("800 future states"). De CREG twijfelt of deze berekening overeenkomt met de bedoeling van de wetgever, die zoals vermeld in de definitie in artikel 2, 52°, van de elektriciteitswet een berekening voor een 'statistisch normaal jaar' voor ogen had. Het gemiddelde van alle LOLE-waarden geeft een hogere waarde dan bijvoorbeeld de mediaan van de LOLE waarden van de scenario's. Bij gebrek aan een duidelijke definitie van het begrip "statistisch normaal jaar", meent de CREG dat Elia in ieder geval bij de publicatie van de resultaten duidelijk moet communiceren over de behoeften aan strategische reserves om aan enerzijds het criterium LOLE95 (20u) en anderzijds het criterium "Gemiddelde" LOLE (3u) te voldoen. In aanvulling hierop wenst de CREG ook dat de verdelingsfunctie van de LOLE waarden wordt opgenomen met indicatie van de LOLE50-waarde en de behoefte aan strategische reserve voor dit criterium.

[CREG]

### **Answer from Elia:**

Elia already published the need of strategic reserve for both legal criteria in the report for winter 2016-17. Moreover a cumulative distribution of the LOLE was already given for the base case in the previous report and will also be provided for winter 2017-18. In this cumulative distribution, it is clearly visible that the LOLE50 was 0h in the base case.

Common best practice across Europe is to use the average Loss of Load in a given country in order to assess the adequacy. This is for example the case in France or Great Britain. Elia will also provide the value for LOLE50 in the next report for winter 2017-18.

## 7. Questions on forced outage rates

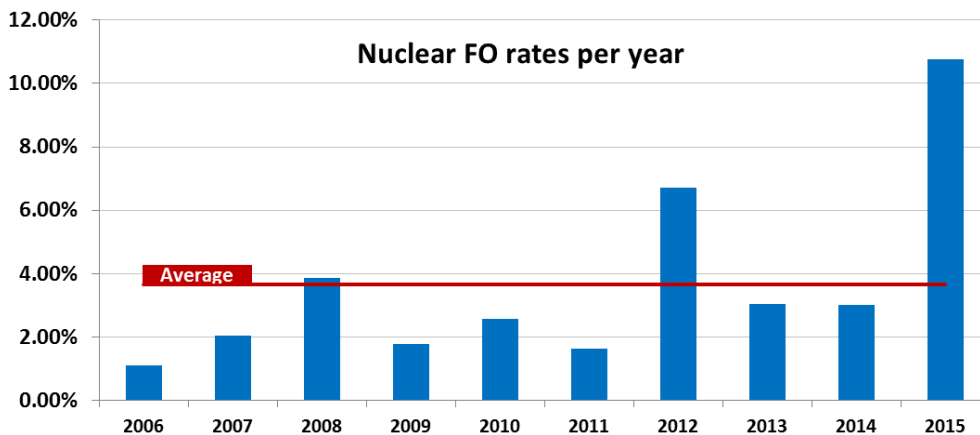
### **Comment from stakeholders:**

*FEPEG is of the opinion that the unplanned unavailabilities should be reviewed and based on more recent figures: FEPEG is not convinced that historical data of before 2014 best reflect the current availability ratio of the units. [FEPEG]*

*The assumptions are also very similar to those taken for the previous report. Our main comment which was already made last year regards the availability (forced outage risk) of the thermal power units (4.2.2) As was the case last year the assumption is based on the average past availability and does not take into account the rise of unavailability that is visible in the historic data and confirmed by Eurelectric (see past replies for link to the actual study). Not only is this not included in the base case it is not even one of the sensibilities evaluated. [Restore]*

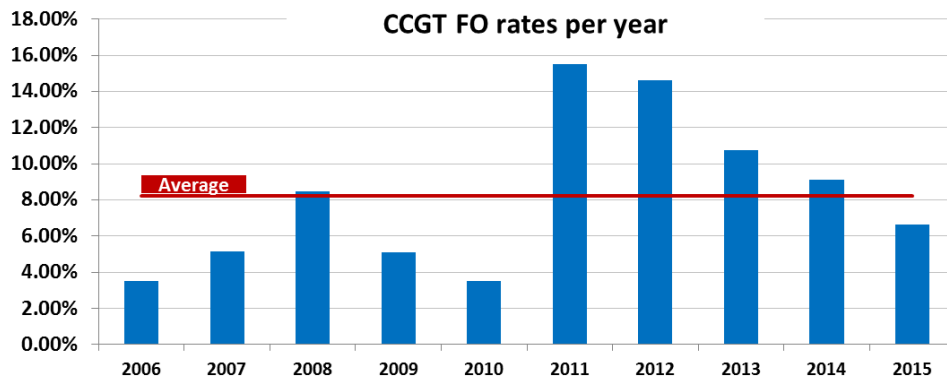
### **Answer from Elia:**

Forced outages are mainly caused by technical failures. Analyzing the data for thermal units in Belgium, one can construct the following charts for nuclear and CCGTs in Belgium. Those charts show the yearly forced outage rates for those 2 types of units.

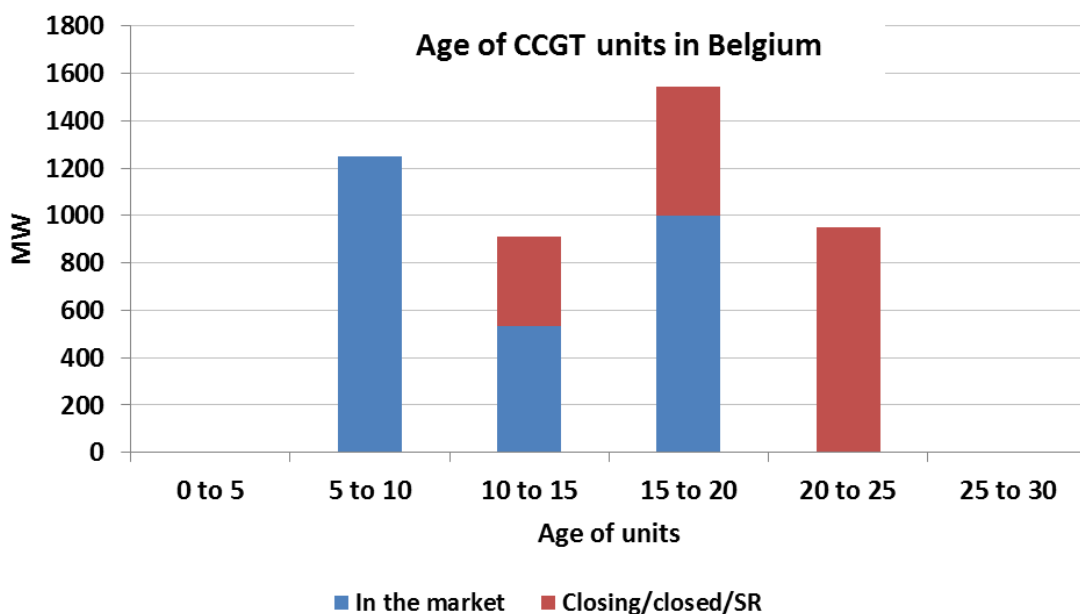


Note that only during 3 years the forced outages of nuclear units were above average (2008 – slightly above, 2012 and 2015). Removing the exceptional years 2012 and 2015, there is no clear trend of increased FO rates of nuclear units. Given the high FO rate observed in 2015, Elia proposes to use the average of the past 10 years (2006-2015) as reference and to make a sensitivity analysis on this assumption using the 2015 FO rate.

Concerning the CCGTs (see chart below) the FO rate in 2015 was under the average and a decreasing trend is observed since 2011. It is important to mention that the FO rates are calculated on the units in the market (strategic reserve units are thus excluded).



In the following chart (total capacity of 4.6 GW is represented), the age of the Belgian CCGTs is plotted (based on the information that Elia has on 27/07/2016). Average age of CCGT units in the market for winter 2017-18 will be 12 years (based on the weighted average of the installed capacity). We can observe that units above 20 years are out of the market or announced for closure. Note that this chart might still be updated with most recent information on closures.



Given the fact that oldest units are planned to be out of the market in the simulation for winter 2017-2018, Elia proposes to use the average rate of the previous 10 years as reference value.

This data will be included and clarified in the report.

Concerning the statement in the Eurelectric study, the following chart (from Eurelectric) shows the energy unavailability of a large amount of units from AT, CZ, DE, FR, IE, IT, NL, PT. There is indeed a clear trend of increasing planned unavailability, but no clear trend in increasing unplanned unavailability.



Source:

[http://www.eurelectric.org/media/26800/power\\_statistics\\_and\\_trends\\_synopsis-2011-180-0005-01-e.pdf](http://www.eurelectric.org/media/26800/power_statistics_and_trends_synopsis-2011-180-0005-01-e.pdf)

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### **Comment from stakeholder:**

*A percentage of unplanned unavailability at only 2,8% for nuclear power generation in Belgian seems low given the multiple nuclear outages since 2012. Given the importance of nuclear power generation in the Belgian power mix we believe that the calculation of the strategic reserve should be based on conservative assumptions for nuclear power generation (based on recent historical utilisation rates). [Fluxys]*

### **Answer from Elia:**

The FO rates are calculated based historical availability of units. Unplanned unavailability is therefore calculated for each type of unit based on forced outages (mainly technical failures). See previous answer for more information.

Any event related to political decisions, authorization of the Federal Agency for Nuclear Control, sabotage or other similarities are not taken into account in this rate. In order to take into account those events, sensitivities on the availabilities of the nuclear units are calculated (e.g. in the previous report 4 different scenarios of nuclear availability where performed with uncertainty on D3, T2 and D1, D2).



## 8. Transparency

### **Comment from stakeholder:**

*FEBEG calls upon Elia to publish all non-confidential data that are used as input for the assessment, in a detailed way, e.g. tables in annex to the study and preferably made available electronically on the website of Elia (Excel format). To allow own forecasting and re-assessments by market participants, the following detailed information should be published as well:*

- *the Belgian asset base (Y, Y+1, Y+2, ...) used in the modelling;*
- *the flow-based domains used in the modelling. [FEBEG]*

### **Answer from Elia:**

As announced in the consultation document, a second consultation on the data will take place in September, where all information on the Belgian production park and demand will be published, including the flow based domains that will be used for the modelling. In the previous report, much data was already published. Anonymised flow based domains were also published in the JAO FB Q&A Forum (<http://cascforum.my-ems.net/>).

## 9. Out of scope

### **Comment from stakeholder:**

*Vraagstelling: op welke manier zal men er zich van verzekeren dat de gecontracteerde DSR niet reeds werd gecontracteerd (en mogelijk dus ook geactiveerd) via een andere (balancerings) reserve? [EON]*

### **Answer from Elia:**

The certification only retains the capacity available according to the criteria in the functioning rules (Section 5.3.1 Winter 15/16). These criteria should ensure that capacity can effectively be regulated downwards during a shortage/adequacy situation. To ensure that the capacity cannot be used for other reserves, there are specific criteria which we refer to in the same section of the functioning rules regarding combining ancillary services with strategic reserve.

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### **Comment from stakeholder:**

*As for flow based allocation and availability of cross border capacity in CWE, Febeliec insists on clear communication and more transparency from TSOs on the importance and the consequences of loopflows and "flow factor competition" (cfr. CREG report on the prices peaks in September and October 2015). Febeliec insists on the need (and legal obligation!) for TSOs to make as much interconnector capacity available for the market as possible. [Febeliec]*

### **Answer from Elia:**

This request is out of scope of the strategic reserve volume calculation. Please address it to CWE working groups (<http://cascforum.my-ems.net/>).