Public consultation on the methodology, the basis data and scenarios used for the study regarding the adequacy and flexibility needs of the Belgian power system for the period 2022-2032

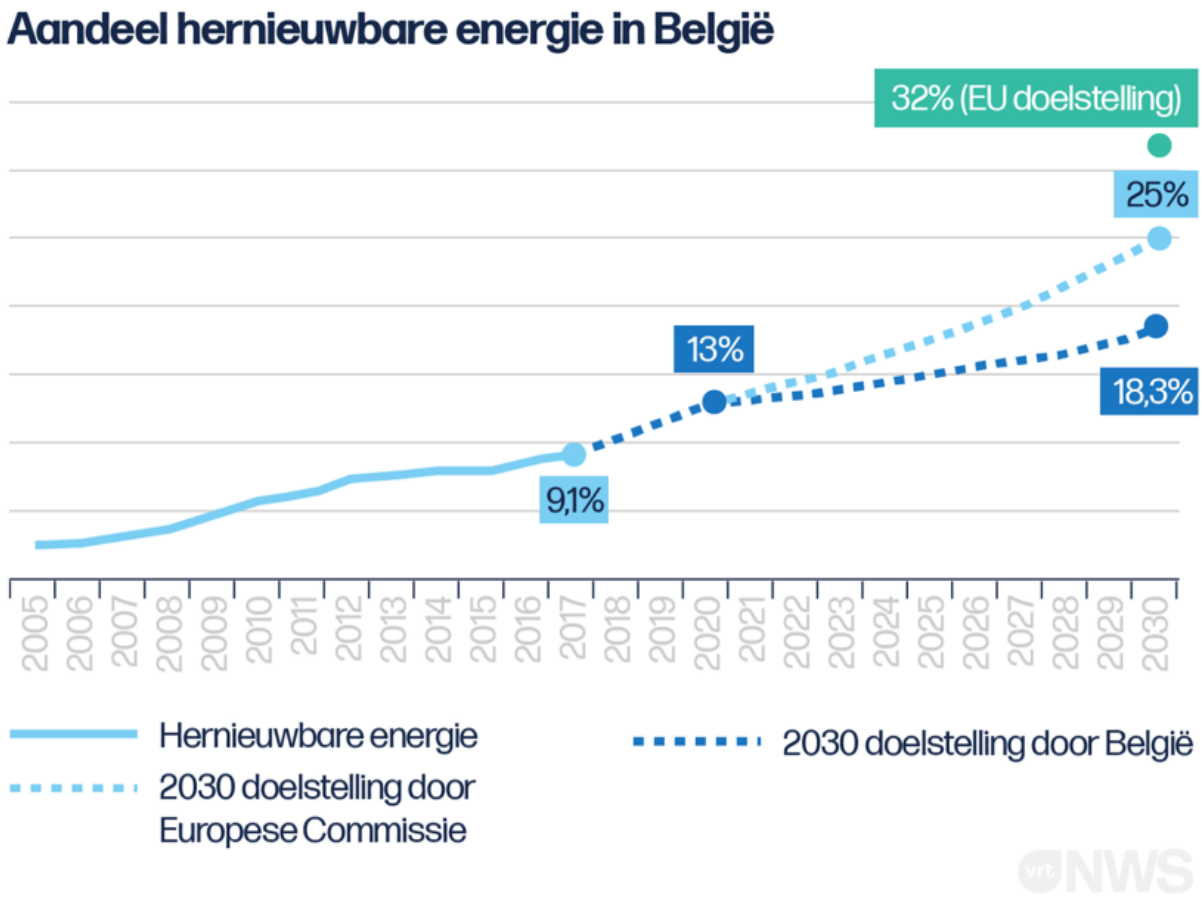
Comments from Greenpeace and Inter-Environnement Wallonie

30 November 2020

1. Input data Adequacy & Flexibility study

1.2. Renewable and non-CIPU

The objectives for renewable capacities for Belgium as mentioned in sheet 1.2. are based on the 2019 NECP. This is however not compatible with the objective set by the federal government to align the Belgian policy with the -55% EU GHG emissions reduction by 2030. The 2019 NECP figures thus need to be updated.



We propose to:

a. Use the objective set out in the federal government agreement as a basis for the reference/central scenario, and not the outdated 2019 NECP.
    i. For offshore wind, the reference scenario should include the objective of 4.4 GW (and not 4 GW) by 2028, with a first phase of 700 MW to be finished in 2026.
b. Add a high-renewable sensitivity (High-RES) with ambitious but realistic objectives for solar and wind energy. The proposed scenario below is an update of the 2016 Our Energy Future scenario of Greenpeace, BBL and IEW. We also add for informational purposes the High-RES scenario of [Energyville 2020].
    i. For offshore wind, the High-RES sensitivity should speed up the deployment of the 4.4 GW by the end of 2025 instead of 2028, as mentioned in the federal government agreement.
c. The significant contribution of offshore wind to adequacy, as explained in Study 1734 of the CREG, should be taken into account.

		Generation capacity at the end of the mentioned year [MW]																		
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032					
	Wind	3,779	5,042	5,234	5,425	5,617	5,808	6,000	6,931	7,161	8,439	8,669	8,900	9,131	9,361					
	Wind onshore	2,223	2,789	2,981	3,172	3,364	3,555	3,747	3,978	4,208	4,439	4,669	4,900	5,131	5,361					
	Wind offshore	1,556	2,253	2,253	2,253	2,253	2,253	2,253	2,953	2,953	4,000	4,000	4,000	4,000	4,000					
	Photovoltaics	4,550	5,254	5,803	6,352	6,902	7,451	8,000	8,600	9,200	9,800	10,400	11,000	11,600	12,200					
	Hydro RoR	117	117	121	125	129	133	137	140	143	145	148	151	154	157					
	Gas CHP - non-CIPU	1,206	1,297	1,379	1,379	1,379	1,379	1,379	1,379	1,379	1,379	1,379	1,379	1,379	1,379					
	Biomass - non-CIPU	446	503	503	503	503	503	503	503	503	503	503	503	503	503					
	Waste - non-CIPU	51	46	46	46	46	46	46	46	46	46	46	46	46	46					
		Updated Our Energy Future 2016 (version November 2020)																		
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032					
	Wind	3,779	4,873	5,270	5,668	6,065	6,462	9,006	9,403	9,800	10,198	10,595	10,992	11,389	11,786					
	Wind onshore	2,223	2,620	3,017	3,415	3,812	4,209	4,606	5,003	5,400	5,798	6,195	6,592	6,989	7,386					
	Wind offshore	1,556	2,253	2,253	2,253	2,253	2,253	4,400	4,400	4,400	4,400	4,400	4,400	4,400	4,400					
	Photovoltaics	4,826	5,522	6,370	7,370	8,495	9,745	11,120	12,620	14,245	15,995	17,870	19,870	22,070	24,470					
	onshore annual		397	397	397	397	397	397	397	397	397	397	397	397	397					
	photovoltaics annual		696	848	1,000	1,125	1,250	1,375	1,500	1,625	1,750	1,875	2,000	2,200	2,400					
		High-RES Energyville 2020																		
		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035		
	Wind																			
	Wind onshore		2,278						3,530				4,549					6,322		
	Wind offshore		2,260						3,860				4,734					4,626		
	Photovoltaics		4,826						4,830				20,115					29,088		

1.3. Storage

The potential of 2GWh storage from Vehicle-to-Grid (V2G) is an underestimation of the potential. More ambitious (and realistic) scenario's on electrification of road transport should be used, such as the Greenpeace report of September 2020[1].

2.1. Total electricity demand

The Electricity demand projection is based on the socio-economic parameters from the Bureau Federal du Plan, published in june 2020, thus before the start of the second lockdown. It is needed to include the impact of the coronavirus crisis.

Electricity demand projections have to better fit with last year evolutions. We observe that electricity demand dropped from 88,9 TWh in 2010 to 85,7 TWh in 2019. A 10 TWh increase from 2020 to 2030 seems then highly questionable from that perspective.

There is still large electricity saving potential in residential, tertiary and industry that could be implemented through NECP revision foreseen in the Federal Government declaration. It is then crucial to develop a low demand scenario that could help triggering those energy saving potentials.

2.2. Demand-Side Response

The scenario is not ambitious enough on Demand-side Response. In the context of the Clean Energy Package, the market of DSR is broadened to all categories of consumers. Combined with a roll-out of smart metres, this could significantly increase the potential of DSR.

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1 https://www.greenpeace.org/static/planet4-belgium-stateless/2020/09/6a3a7fc4-transportroadmap_report_september2020_2.pdf

3.3. Outages

The definitions of “planned” vs “forced” outages are particularly confusing for nuclear power plants. When the operator decides to halt the reactor and do safety checks, such as in the case of the cracks in Doel 3 and Tihange 2, it can be defined as planned, whereas the reactor is not available for adequacy.

Our proposal:

a. There is no need for a 2 GW nuclear sensitivity in the 2021 study.
b. If Elia would however develop such a 2 GW nuclear sensitivity, it should follow the same methodology as in the 2019 Adequacy & Flexibility study. This is explained in more detail in BOX6 of the 2019 study.

2. Methodology

2.1. ERAA

The implementation of the ERAA methodology, as published by ACER on 2 October 2020 is seen as voluntary by Elia:

> *“Given that this national study on adequacy and flexibility will be published around six months before the European assessment, and knowing that this first European assessment will not include all the methodical changes described in the methodology, it is obvious that the national study is not required to be fully compliant with the recently adopted European methodology.”*

In our opinion, however, the EMR art. 24(1) requires that the National Resource Adequacy Assessment follows the recently published ERAA methodology. Elia is not clear on how ERAA will be precisely implemented in its National report:

> *“Elia intends, to a maximum extent possible and feasible, to adapt its methodology already in order to be maximally in line with the future European Resource Adequacy Assessment.”*

2.2. Climate years

Elia proposes to follow the first option of the ERAA methodology, using the methodology of RTE:

> (f) The expected frequency and magnitude of future climate conditions shall be taken into account in the PECD, also reflecting the foreseen evolution of the climate conditions under climate change. To this effect, the central reference scenarios shall either
>
> i. rely on a best forecast of future climate projection;
>
> ii. weight climate years to reflect their likelihood of occurrence (taking future climate projection into account); or
>
> iii. rely at most on the 30 most recent historical climatic years included in the PECD.
>
> Other scenarios and sensitivities may rely on climate data beyond the one used for the central reference scenarios, e.g. pursuant to Article 3.6(e).

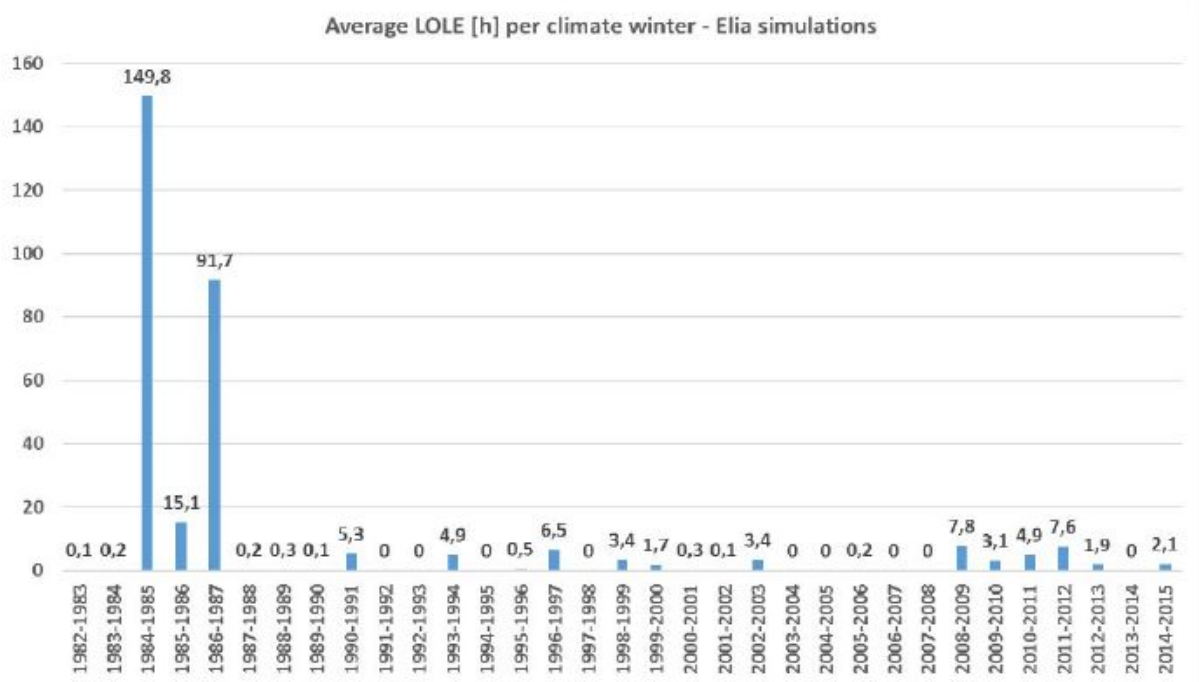
There is however no firm commitment to apply the RTE methodology:

"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"

Our comments:

- As demonstrated in Study 2064 of the CREG and the VUB study "Winter is Leaving", there is a major impact of the climate years methodology on the outcome of the Adequacy calculations. It is therefore imperative that the 2021 Adequacy & Flexibility study is very transparent on these calculations.
- As such, it is positive to implement option 1 of the ERAA methodology, because the future trend in climate change might have a fundamental impact on the Adequacy calculations.
- However, if this would not be feasible, it must be made clear what the alternative methodology will be, which is now excluded from this consultation. An alternative approach will be "proposed", but will there be a consultation on this?
- In addition, the RTE methodology is a black box. How will this methodology be made transparent?

We propose that, whatever methodology is followed, a detailed data set is made available which makes it possible to evaluate e.g. what climate years are responsible for how many LOLE hours, similar to the graph below and calculated by Elia on request of the CREG, but regrettably not included in the 2019 Adequacy & Flexibility study.



3. Sensitivities

Following the above development, we support the development of several sensitivity scenario as :

- Most important: we propose a High-RES sensitivity, as described above.

- There is no need for a 2 GW nuclear sensitivity anymore.
- A sensitivity with low availability of nuclear energy in France is in contradiction with the fact that there is already a CRM implemented in France. If Elia thinks that this is not sufficient, it should explain why the French CRM is not sufficient to guarantee Adequacy, given the unreliability of French nuclear reactors.
- A low demand sensitivity is needed, as mentioned above.
- A sensitivity with a minimum Remaining Available Margin lower than 70% is not needed, as this would be in contradiction with European regulations.

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