European Network of Transmission System Operators for Electricity

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THE EXECUTIVE SUMMARY OF PSE REPORT ON BALANCING, IN ACCORDANCE WITH ARTICLE 60 COMMISSION REGULATION (EU) 2017/2195 OF 23 NOVEMBER 2017 ESTABLISHING A GUIDELINE ON ELECTRICITY BALANCING

15 June 2026

1. Introduction

a) Link to the National TSO report on Balancing (from which current executive summary is being provided).

https://www.pse.pl/documents/20182/95c2c00f-ffed-49d5-b2ba-b9779446de2f

b) Link to current version of National Term & Conditions (if available English version)

PSE's website: Link – Polish version only (detailed directions: "Warunki Dotyczące Bilansowania (WDB)" à "WDB – tekst obowiązujący").

c) Geographical scope: synchronous area(s), LFC block(s), LFC area(s), scheduling area(s) = imbalance area(s), bidding zone(s) = imbalance price area(s), TSO(s).

Polskie Sieci Elektroenergetyczne S.A. (PSE) is the sole transmission system operator in Poland responsible for Polish Balancing Market. Geographically Polish LFC block, LFC area, scheduling area and bidding zone overlap with Polish borders. Polish LFC area is a part of the Continental Europe synchronous area.

d) General information about market design and reserve dimensioning: central / self-dispatch model, types of reserve used to balance the system and dimensioning, specific requirements defined in the terms and conditions for BSP/BRP[1] according to Articles 18(5-7) (information or requirement on unused capacity, requirements regarding the BRP position, etc.).

The Polish Balancing Market is based on the Central Dispatching Model, in which the TSO is responsible for selecting and dispatching the capacity of all units taking part in balancing market. The balancing market in Poland covers the 400 kV and 220 kV transmission networks, connection points for centrally dispatched units to the 110 kV and distribution network and points in the distribution network to which units take part in balancing market. PSE uses the following types of reserves:

- Frequency Containment Reserve (FCR),
- Frequency Restoration Reserve with Automatic activation (aFRR),
- Frequency Restoration Reserve with Manual activation (mFRR) – (introduction since the 14.06.2024),
- Replacement Reserves (RR).

The reserves dimensioning in Poland is based on the probability of generation units outage, demand forecast uncertainty, historical values of needed reserves, maximum generation units size and for the downward reserve, maximum demand unit size (including HVDC connection with Sweden). The required reserves capacity, calculated as annual average, is as follows:

[1] Including the rules for suspension and restoration of market activities, in accordance with Article 36 of the EB Regulation, and the rules for settlement in case of market suspension pursuant to Article 39 of Regulation (EU) 2017/2196 once approved, in accordance with Article 4 of the EB Regulation.

- FCR: + 171 MW/ -171 MW,
- FRR[2]: + 957 MW/ - 593 MW,
    - including aFRR: + 400 MW/ - 400 MW,
- RR: + 514 MW/ --

Each balancing service provider (BSP) should have at least one scheduling unit that actively participates in the balancing market (active scheduling unit) and a dedicated IT system used for the communication between BSP and TSO, e.g. to activate the balancing services. BSP provides balancing services through the scheduling units.

The evaluation of the provisions of balancing services pursuant to Article 18(5)(f) of EB regulation is performed based on the real-time measurements.

PSE uses standard aFRR, mFRR and RR products within the meaning of EB Regulation. Since the accession to the PICASSO platform (11.07.2025) aFRR product is activated via European platform for the exchange of balancing energy from aFRR, while mFRR and RR are activated locally based on the integrated scheduling process bids submitted by BSPs. Additionally, currently PSE uses local FCR product.

Each BRP is obliged to deliver information to the TSO about the energy contracts concluded at the passive scheduling unit level with other BRPs. The measurement data for each BRP's passive scheduling unit is provided by measurement operators.

One imbalance price is determined for the whole scheduling area; therefore, the imbalance price area is equal to the scheduling area.

The integrated scheduling process in Poland starts in the day-ahead timeframe and the integrated scheduling process bids are submitted by BSPs no later than by 14:30 the day before the electricity supply. Submission of integrated scheduling process bid for whole available capacity is mandatory for all centrally dispatched generation units. Integrated scheduling process bids submitted in the day-ahead market horizon may be corrected in the intra-day balancing process till h-0:55 before trading hour.

The settlements of balancing services and imbalance energy are performed for each decade of the month. Preliminary settlements data are available on day d+1, while final ones on day d+4. Settlements correction is possible in the following months: m+2, m+4, m+8, m+15.

e) General information about the market size: number of BSP(s), BRP(s), information about historical/new market players, DSR/RES/Batteries participation.

[2] PSE does not have the separate demand for mFRR capacity, that's why PSE calculates demand for total FRR capacity and minimal value of aFRR capacity. The rest of FRR capacity (above the minimal aFRR value) may be covered by both reserves (aFRR and mFRR) depending on the price offer competition of these reserves.
FRR (aFRR + mFRR): is dimensioned as maximum power of the the largest generating resource (positive dimensioning incident) and of the largest load resource (negative dimensioning incident) in the Polish Power System.

Market participant	Number of market participants in 2024	Number of market participants in 2025
BSP (DUB)	13 entities (total number of entities) 97 active scheduling units (total number of units)	14 entities (total number of entities) 100 active scheduling units (total number of units)
BRP (POB)	158 entities 234 passive scheduling units	181 entities 266 passive scheduling units
DSR	0	0
Storage	2 entities 18 active scheduling units	2 entities 18 active scheduling units
RES	0	0

2. Progress, timeline towards joining the European platforms and / or balancing capacity cooperations

Based on information from the last available Accession Roadmaps with further remarks by each TSO if needed (to provide most recent information closest to report publication date)

European balancing platform for the activation of balancing energy	Accession timeline and status of accession	Reasoning for derogation and status of the derogation (granted or not)
RR Platform	Not connected – Platform phase out	N/A
aFRR Platform	Already connected	N/A
mFRR Platform	Accession planed in late 2026	Changes in internal balancing market process
IN Platform	Already connected	

At this moment PSE does not plan to join any balancing capacity cooperations

The following content can be included in the Section 2 on a voluntary basis:

Question:	Please select an option:
Q1: Did you carry out regulatory and IT developments for allowing Demand, RES and Storage to participate at European balancing platforms	**Yes**
1.1. If response in Q1 is "no", why?	
1.2. If response in Q1 is "yes", what were the main results"?	New T&C facilitating participation of RES, DSR and storage in Balancing market are approved and entered into force in June 2024
Q2: Did you carry out regulatory and IT developments for adopting standard energy products (aFRR, mFRR, RR balancing energy products) in your system?	**Yes**
2.1. If response in Q2 is "no", why?	
2.2. If response in Q2 is "yes", what were the main results?	Standard balancing energy products for aFRR, mFRR and RR are implemented in Polish balancing market since June 2024
Q4: Do you procure a standard product for balancing capacity?	**Yes**
Q5: What are the main characteristics?	Standard balancing capacity products as defined in EBGL: - aFRR (upward and downward) - mFRR (upward and downward) - RR (upward and downward[3])
Q6: Did you assess the potential for exchange of balancing capacities or sharing of reserve?	**No**
6.1. If response in Q6 is "no", why?	Very high uncertainty regarding available transmission capacity and lack of the efficient mechanism to allocate transmission capacity between energy and capacity products.
6.2. If response in Q6 is "yes", what were the main results?	

[3] *Only under special conditions defined in national T&Cs 7.1(4.3).*

Question:	Please select an option:
Q7: Are you already involved in a BCC as a member or as an observer?	**No**

3. Evolutions of the terms and conditions for BRPs and BSPs related to the EB regulation implementation during the last 2 calendar years and further evolutions foreseen for the future

Evolution of the terms and conditions for BSP	
Content	Ground-breaking balancing market reform which entered into force on 14.06.2024
Evolution of the terms and conditions for BRP	
Content (see below)	Ground-breaking balancing market reform which entered into force on 14.06.2024

Evolution of the terms and conditions for BRP – "Content" should include, among other information, the following content as per the Articles 52, 53, 54 and 55 in the EB Regulation:

Question:	Please select an option:
Q1. Was 15-min Imbalance Settlement Period (ISP) implemented by 1 January 2026?	**Implemented**
1.1. If response in Q1 is "derogation" or "exemption", until when was this derogation/exemption granted?	
Q2. Has your TSO made use of additional components pursuant ISH Methodology Art 9(6) as per 1 January 2024?	**Yes**
2.1. Scarcity component?	Implemented[4]
2.2. Incentivizing component?	Implemented
2.3. Component related to financial neutrality of the TSO?	Financial neutrality is ensured in transmission tariff.
Q3. Has your TSO made use of dual pricing as per 1 January 2026?	**No**
3.1. Condition (a)	Not considered
3.2. Condition (b)	Not considered
3.3. Condition (c)	Not considered
3.4. Condition (d)	Not considered
3.4. Condition (e)	Not considered

4. Summaries and main results of the analysis of Articles 60(2)(a-f):

1. Analysis of the dimensioning of reserve capacity, including the justification and explanation for the calculated reserve capacity requirements, in accordance with Article 60(2)(b) of EB regulation.

The reserves dimensioning is based on the probability of generation units outage, demand forecast uncertainty, historically required reserves volumes, maximum generation units size and for the downward reserve, maximum demand unit size (including HVDC connection with Sweden). Availability of reserves is monitored constantly looking ten days in advance. The required level is expressed as a percentage of forecasted demand, and it decreases as it approaches real-time. Currently required values are calculated according to the national T&Cs for Balancing defined under paragraph 7.1.(4).

The total required reserve capacity consists of: FCR, aFRR, mFRR and is padded to the total required value by RR. Values of reserves are mentioned under point 1. d) above.

2. Analysis of the optimal provision of reserve capacity, including the justification of the volume of balancing capacity in accordance with Article 60(2)(c) of the EB regulation.

[4] *Scarcity component is included in local balancing energy price and incentive component is directly used for calculation of imbalance price*

The volume of balancing capacity procured by PSE is determined in a risk-based manner and reflects the operational needs of the Polish power system (KSE), in particular the probability and consequences of outages of generating units, forecast uncertainties and the size of dimensioning incidents. The adopted approach aims at ensuring operational security while keeping the total balancing costs efficient and avoiding an unnecessary early blocking of market participants' resources.

Procurement is carried out close to real time (D-1), which enables daily adjustment of required volumes to the current system conditions (e.g. expected demand level, generation availability, network constraints and anticipated adequacy margins). This procurement timing improves the accuracy of reserve needs and limits the need for conservative, long-horizon buffers.

PSE applies a layered reserve structure (FCR, aFRR, mFRR and RR), where the total required reserve capacity is met by combining products with different response characteristics. Possibility of covering reserve demand by different products and substitution of reserves is supporting an economically efficient fulfilment of the overall requirement.

The optimal provision is further supported by the co-optimisation of energy and reserves within the integrated scheduling process under the central dispatching model. The co-optimisation ensures that reserve procurement and energy dispatch are determined consistently, taking into account operational security limits and network constraints, and allowing for an efficient allocation of available resources between energy delivery and reserve availability.

As a result, the procured balancing capacity volumes are justified by the current risk profile of the system and are secured in a manner that balances security and efficiency, i.e. ensuring adequate reserves for credible incidents while limiting unnecessary procurement and preserving flexibility for market participants.

3. Analysis of the opportunities for the exchange of balancing capacity and sharing of reserves in accordance with Article 60(2)e of the EB Regulation.

Currently, PSE does not see a feasible or efficient pathway to engage in balancing capacity exchange or reserve sharing mainly due to:

- Very high uncertainty regarding available transmission capacity in the relevant timeframes; and
- Lack of an efficient mechanism to allocate transmission capacity between energy and capacity products.

These factors prevent predictable, reliable, and cost-effective cross-border capacity arrangements.

Moreover:

- Reserving scarce cross-zonal capacity for capacity products could unduly constrain real-time congestion management and reduce PSE's flexibility during disturbances.

- Without a robust, transparent co-optimisation between energy and capacity usage of the interconnectors, capacity reservations may unjustifiably limit day-ahead/intraday trades and create unpriced opportunity costs.
- Heterogeneous product definitions, timings and activation logics across borders still complicate efficient, routine TSO-TSO cooperation for capacity products.

However, even not sharing reserves **if needed for system security, PSE may still provide energy to neighboring TSOs through operational, emergency-type measures** (e.g., Agreed Supportive Power / Emergency Deliveries). These are ad-hoc operational tools, not market-based exchanges of balancing capacity.

4. An explanation and a justification for the procurement of balancing capacity without the exchange of balancing capacity or sharing of reserves in accordance with Article 60(2)f of the EB regulation.

- **Security-first:** Procuring **balancing capacity domestically** ensures firm, controllable access to reserves and avoids dependence on cross-border transmission availability that cannot be guaranteed with sufficient firmness in the procurement horizon.
- **Cost-effectiveness under uncertainty:** In the absence of an **efficient allocation mechanism** between **energy** and **capacity** usage of cross-zonal capacity for cross-border capacity procurement can raise total balancing costs without equivalent reliability benefits.
- **Market integrity:** Not reserving interconnector capacity for capacity products supports liquidity and efficient price formation in **day-ahead** and **intraday** markets, in line with EBGL's principle that balancing implementation must not compromise forward/DA/ID market development.
- **Proportionality and transparency:** Given today's technical and market constraints, a domestic procurement model is a **proportionate** and **transparent** approach to meeting reserve requirements while respecting EBGL objectives (competition, efficiency, security