

Calculation of price spread indicators for the MGP Power

Rev.	Description	Date
00	Functional specification for the calculation	28 Sep 2026

Table of contents

- Table of contents..... 2
- 1. Scope and purpose 3
- 2. Input data and price ordering..... 3
- 3. Calculation of indicators 4
- 3.1 Indicators based on the PUN Index GME 4
- 3.2 Indicators based on the MGP zonal prices 4

1. Scope and purpose

This specification describes the methodology for calculating price spread indicators for the MGP Power.

These indicators are designed to represent, for each daily session, the width of the spread between the highest and lowest price levels recorded during the day.

The calculation is carried out separately on the PUN Index GME and on the MGP zonal prices for each market zone, thereby giving rise to two distinct families of indicators.

For each price series, three indicators are defined. They are calculated by considering the 8, 16, and 24 quarter-hours with the highest prices, and the 8, 16, and 24 quarter-hours with the lowest prices recorded on the same day, respectively.

The relevant quarter-hours are identified independently for each price series, based on predefined and deterministic criteria, and without introducing any discretionary elements in the selection of intervals.

2. Input data and price ordering

For each market day, the following data is considered:

- the PUN Index GME for each quarter-hour of the day;
- the MGP zonal prices for each quarter-hour of the day and for each zone¹.

The following values are defined:

- $PUN(d,q)$ = PUN Index GME for market day d and quarter-hour q ;
- $PZ(d,q,z)$ = MGP zonal price for market day d , quarter-hour q , and zone z .

For each market day, the values are ordered separately and independently:

- in ascending order of the PUN Index GME values;
- in ascending order of the zonal prices, with ordering carried out separately for each zone.

For each of the resulting series, the following quarter-hours are selected:

- the 8, 16, and 24 quarter-hours with the lowest prices during the day (LOW);
- the 8, 16, and 24 quarter-hours with the highest prices during the day (HIGH).

The intervals are selected solely on the basis of the price level. Consequently, the selected quarter-hours are not necessarily consecutive and may differ between the PUN Index GME and the zonal prices, as well as across the various market zones.

For each group of selected quarter-hours, the arithmetic mean of the corresponding prices is calculated.

¹ Consideration is given to the national zones: NORD, CNOR, CSUD, SUD, SARD, CALA, and SICL.

3. Calculation of indicators

3.1 Indicators based on the PUN Index GME

For each market day and each group size $n = 8, 16, 24$, a spread indicator referring to the PUN Index GME is calculated:

$$\text{Spread PUN}(n) = \text{Mean PUN HIGH}(n) - \text{Mean PUN LOW}(n)$$

where:

- Mean PUN HIGH(n) = the mean of the PUN Index GME values for the n quarter-hours with the highest prices during the day;
- Mean PUN LOW(n) = the mean of the PUN Index GME values for the n quarter-hours with the lowest prices during the day.

Thus, for each day, the following indicators are calculated:

- Spread PUN (8)= TB2 ;
- Spread PUN (16)= TB4 ;
- Spread PUN (24)= TB6.

3.2 Indicators based on the MGP zonal prices

For each market day, each market zone z , and each group size $n = 8, 16, 24$, the following value is calculated:

$$\text{Spread PZ}(n,z) = \text{Mean PZ HIGH}(n,z) - \text{Mean PZ LOW}(n,z)$$

where:

- Mean PZ HIGH(n,z) = the mean of the zonal prices for the n quarter-hours with the highest prices during the day in zone z ;
- Mean PZ LOW(n,z) = the mean of the zonal prices for the n quarter-hours with the lowest prices during the day in zone z .

Thus, for each market zone, the following indicators are calculated:

- $\text{Spread PZ}(8,z) = \text{TB2};$
- $\text{Spread PZ}(16,z) = \text{TB4};$
- $\text{Spread PZ}(24,z) = \text{TB6}.$

All the resulting indicators are expressed in €/MWh.