

# **Impact of recent amendments and new connections to the PICASSO platform**

- Context
- Impact of amendments and connections of new TSOs on previously connected TSOs
- First observations for the newly connected TSOs

# Context

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- At the beginning of operation of the PICASSO platform, price incidents have been observed.
  - The amendment of the aFRR IF and balancing pricing methodology (ACER decisions 08/2024 and 09/2024) contain several improvements to the functioning of the PICASSO platform (possibility for TSOs to use an elastic demand, alternative way to compute the cross-border marginal price).
  - Danish, Dutch, Slovakian and Belgian TSOs have connected to the platform during the end of 2024.
  - This presentation aims at showing the impact of the amendments and of the connection of new TSOs.

Price incidents have been defined as prices more extreme than +- 7,500 Eur/MWh

- aFRR IF (Decision 08/2024)
  - The activation optimisation function has been updated to allow the possibility for TSOs to submit an elastic demand.
  - ELIA was the first TSO to use elastic demand at the time of their connection (26 November 2024).
  - Other TSOs are still making local developments (controller adaptation).
- Pricing methodology (Decision 09/2024)
  - TSOs have implemented the alternative way to compute the aFRR cross-border marginal price (based on the LFC output) in order to ensure that the cross-border marginal price is not set at a bid that is not activated by the TSO controller.
  - This measure went live on 5 August 2024.

# Impact of amendments and connections of new LFC areas on previously connected LFC areas

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Impact of amendments

Impact of additional connections

- The analyses shown in this presentation look at the preliminary impact of the amendments and connection of new TSOs to the aFRR platform.
- Due to the fact that these changes are recent, few data are available and therefore the results shall be considered as preliminary.

	Last year (same period as after the mitigation)	Before mitigation measures (2024)	After mitigation measures (2024)
Austria	0.10	0.16	0.10
Czechia	0.46	0.44	0.14
Germany	0.020	0.062	0.012

- Since the implementation of the alternative way to compute the cross-border marginal price (ACER Decision 09/2024), the amount of optimisation cycles with price incidents **has decreased for all LFC areas compared to earlier this year 2024 (on average 65% decrease)**.
- The decrease is also visible compared to the same period last year (on average 60% decrease) which would suggest that it is not only a seasonal effect.



	Current borders	All borders
Export 100 MW	20	7
Export 200 MW	26	9
Export 500 MW	42	20
Import 100 MW	21	2
Import 200 MW	25	3
Import 500 MW	38	8

Percentage of time Czech Republic has less than a given amount of ATCs, depending of which other TSOs are connected (based on 2023 data).

- In its analysis on 2023 data, ACER has identified that a vast majority of price incident in Czechia were due to situations in which Czechia had no ATCs available in the relevant direction on the borders part of PICASSO.
- Based on the analysis on the available ATCs, ACER had also identified that the connections of their other borders would strongly reduce the occurrence of this situation.

	After mitigation before SEPS	After SEPS connection (2024)
Percentage of OC with price incidents	0.187	0.064

- After the SEPS connection, the amount of optimisation cycle with a price incident in CEPS has decreased by 66% compared to the period after the mitigation measures.

# First observations for the newly connected LFC areas

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	DK1	DK2	NL	SK	BE
Percentage price incidents	0.001	0.000	0.000	0.055	0

- In the recently connected LFC areas, almost no occurrence of price incidents have been observed in BE, NL, DK1 and DK2.
- Some price incidents have occurred in Slovakia (7 times less compared to the amount of price incidents in Czechia before mitigation).

# Slovakia: The connection of the other neighbouring TSOs would be an efficient mitigation measure

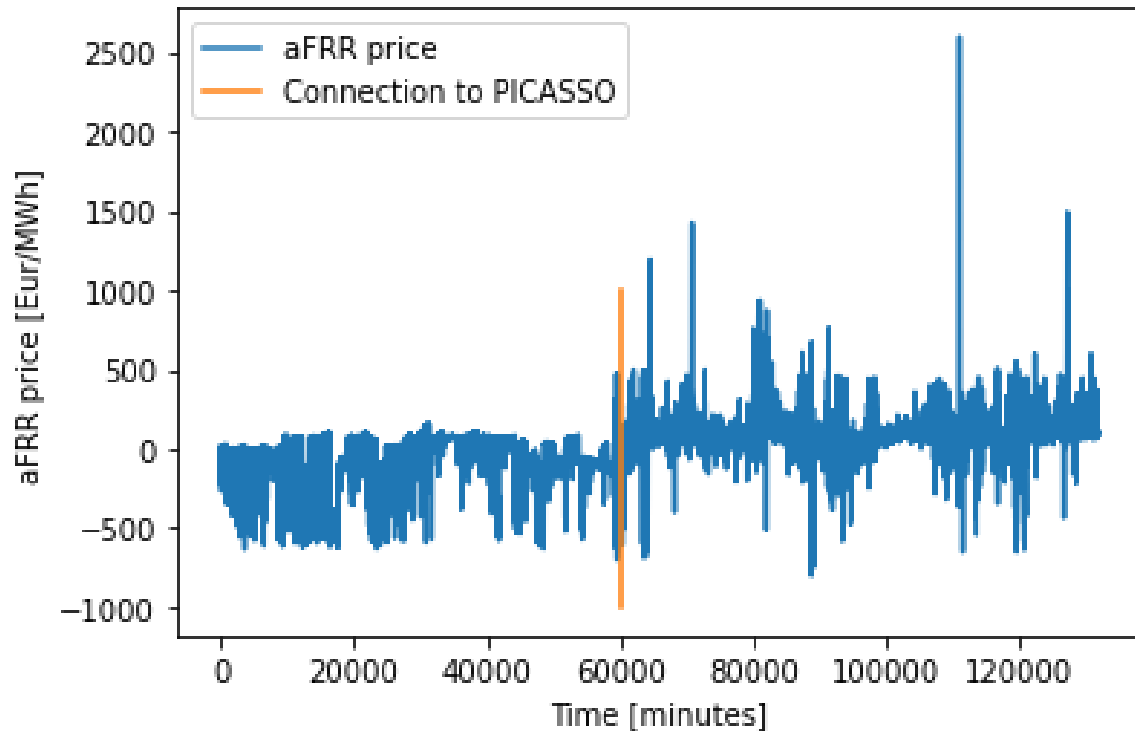
	Current borders	All borders
Export 200 MW	22	1
Export 500 MW	49	8
Import 200 MW	51	1
Import 500 MW	80	3

Percentage of time Slovakia has less than a given amount of ATCs, depending of which other TSOs are connected.

- Due to the fact that Slovakia only has one neighbour part of the PICASSO platform, the ATCs available are regularly limited.
- The connection of other neighbouring TSOs would strongly reduce these cases of limited ATCs.
- This extra potential of exchange for Slovakia would have a beneficial effect in terms of competition and costs for BRPs.

- The volume of activation from Dutch BSPs has increased of 69% in the positive direction and 5% in the negative direction.
- This is coming from the fact that there is a large volume of bids at low price in the Netherlands that could be activated by other TSOs.
- The average price in case there is activation in the positive direction has decreased from 150.8 Eur/MWh to 144.6 Eur/MWh.
- The average price (amount received by the TSO) in case there is activation in the negative direction has increased from 32.6 Eur/MWh to 57.4 Eur/MWh.
- **This means that, on average, the TSOs activates at a more favourable price after the connection to the aFRR platform (even though the volume activated has increased on average).**

# Belgium: Price evolution



Price evolution before and after connection in Belgium

- Since the connection of ELIA, it seems that the stability of the price of negative price incident has improved.
- This is confirmed by the act **that the weighted average aFRR price in case the system imbalance is long (price received by the TSO) has gone from -110 Eur/MWh to 46 Eur/MWh.**
- This could be explained by the fact that:
  - (i) The Belgian negative merit order becomes negative relatively quickly. So, in an isolated situation, the price can become negative even for limited imbalances.
  - (ii) With the connection to the platform, ELIA has access (in case of sufficient ATCs) to the less expensive German and Dutch aFRR down merit order.

- The implementation of the mitigation measures have decreased the amount of price incidents for the TSOs that were already connected.
- The connection of additional TSOs have also decreased the amount of price incidents for the TSOs that were already connected.
- High prices tend to take place in LFC areas that have few of their borders part of the aFRR platform.



# Thank you. Any questions?

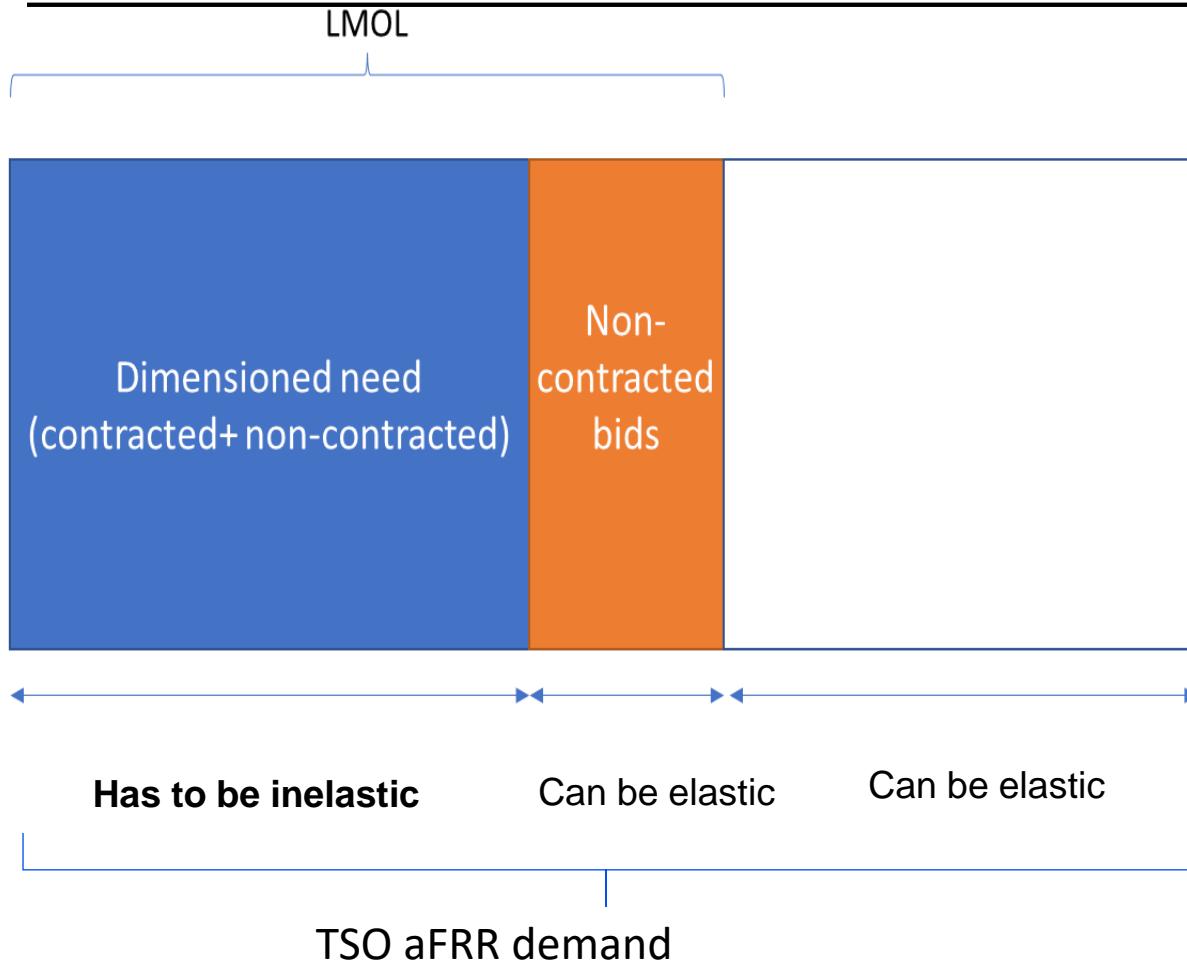
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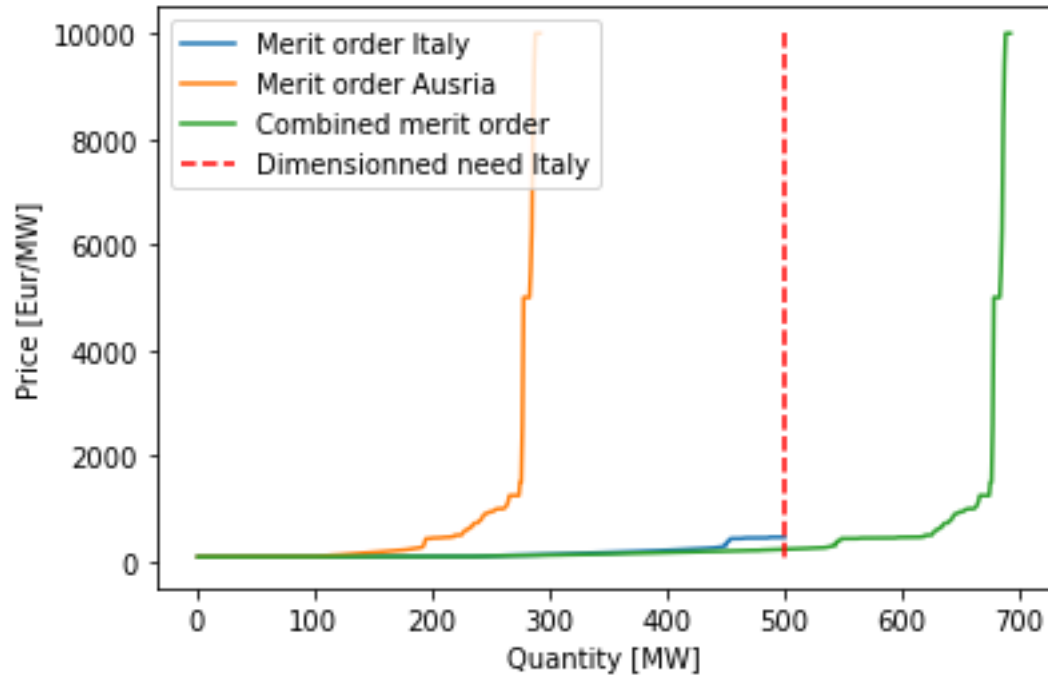
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- **Proposal:** introduces the possibility for TSOs to use an elastic demand for the aFRR: TSOs may have a price for part of their aFRR demand with some limitations
- **Reasoning:** Connecting to PICASSO allows TSOs to satisfy additional demand and therefore improve frequency quality. However, there shall not be an obligation to improve the frequency quality at any cost.

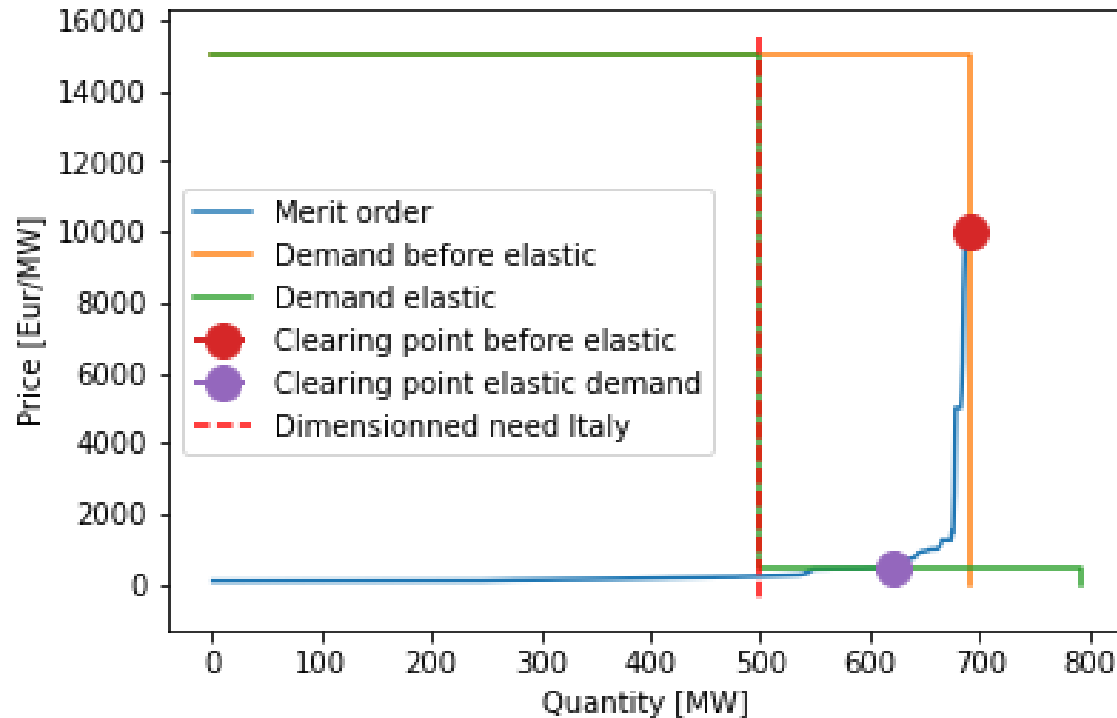
# Example of the impact of elastic demand for Italy



Example combined merit order observed from Italy

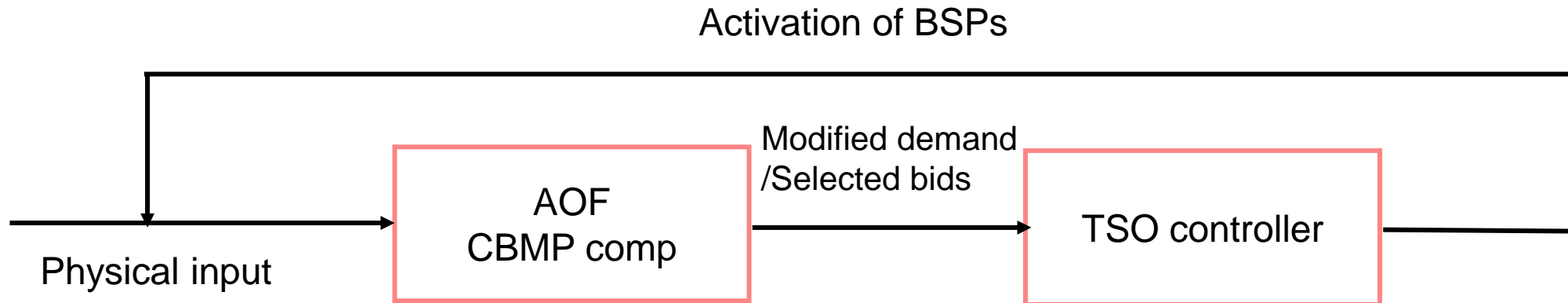
- In this example, we consider price incidents that took place in Italy. Often, these price incidents come from a situation in which Terna exhausts its merit order and also activates expensive bids from Austria.
- In this graph, we represent in blue the Italian merit order, in orange the Austrian merit order; and in green the combined merit order if there are ATCs available.

# Example of the impact of elastic demand for Italy



Impact of the use of an elastic demand for Italy

- The price incidents in Italy mainly takes place when they exhaust their merit order and the Austrian one (red dot).
- The use of an elastic demand would allow TERNA to put a price on the volume exceeding the dimensioning need (vertical red dashed segment).
- The price of the elastic part is decided by the TSO (lower horizontal segment of the green curve).
- The use of an elastic demand would allow TERNA not to activate the most expensive bids from Austria (purple dot).
- This is expected to prevent a large portion of price incidents in Italy.



- In the current settings, there might be discrepancies between the bids “selected” by the AOF and the BSPs bids really activated by the TSO controller.
- This option can create issues because the price can be set by a bid that is not even activated (in case a bid is selected by the AOF but not activated by the TSO controller).
- This is what happens for short price incidents where the expensive bid is not even activated.