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Towards modern transmission and distribution services in Brazil

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Balancing Regime

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Abrindo novos caminhos para o gás natural

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Balancing Dimensions

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TSOs Balancing Tools

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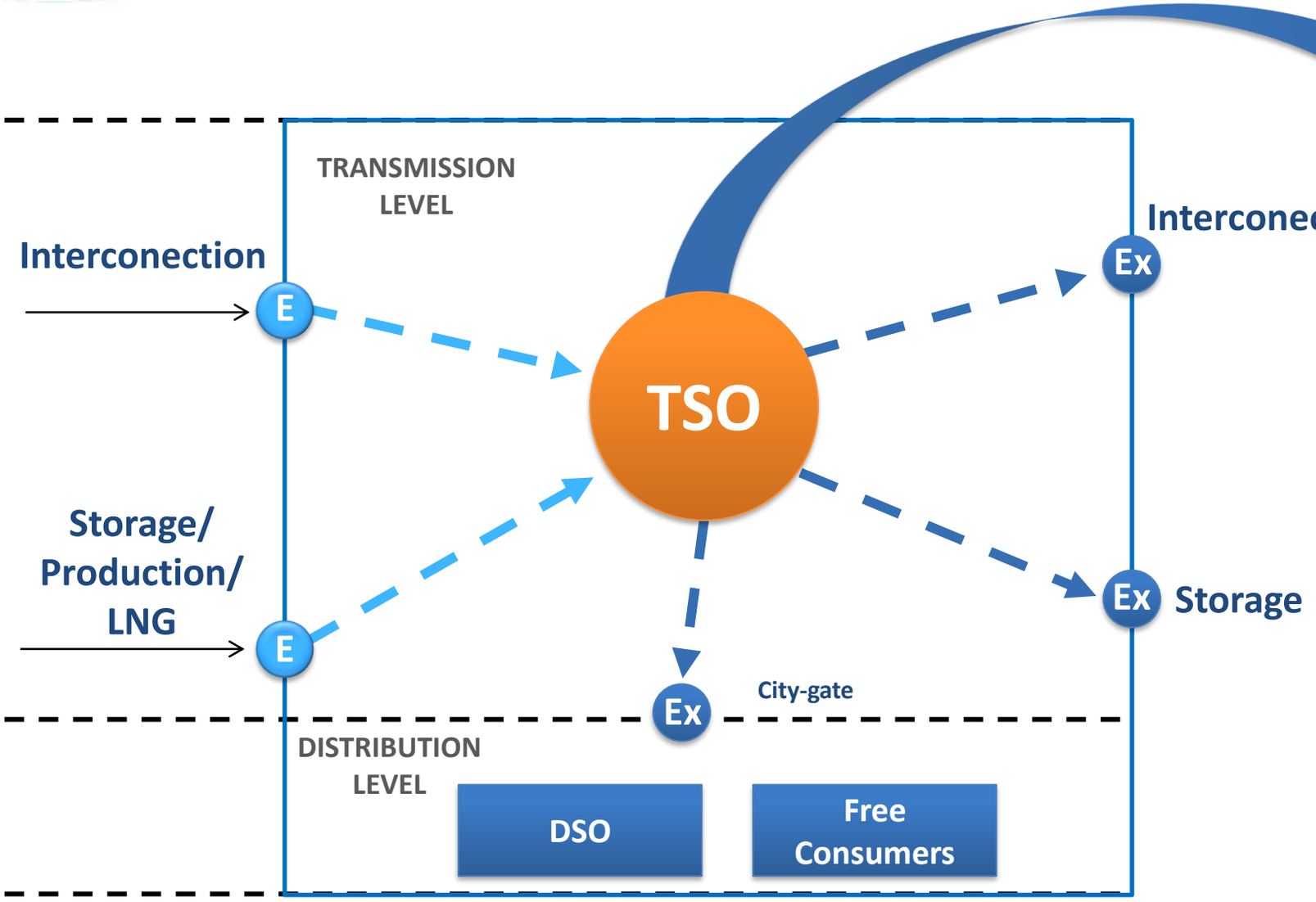
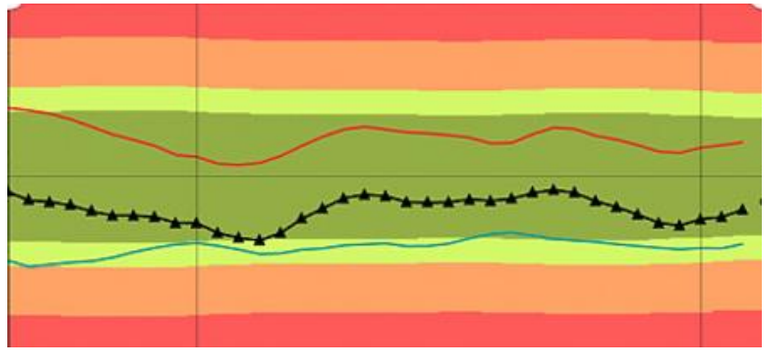
Entry Exit Model and Balancing – Conceptual Chart

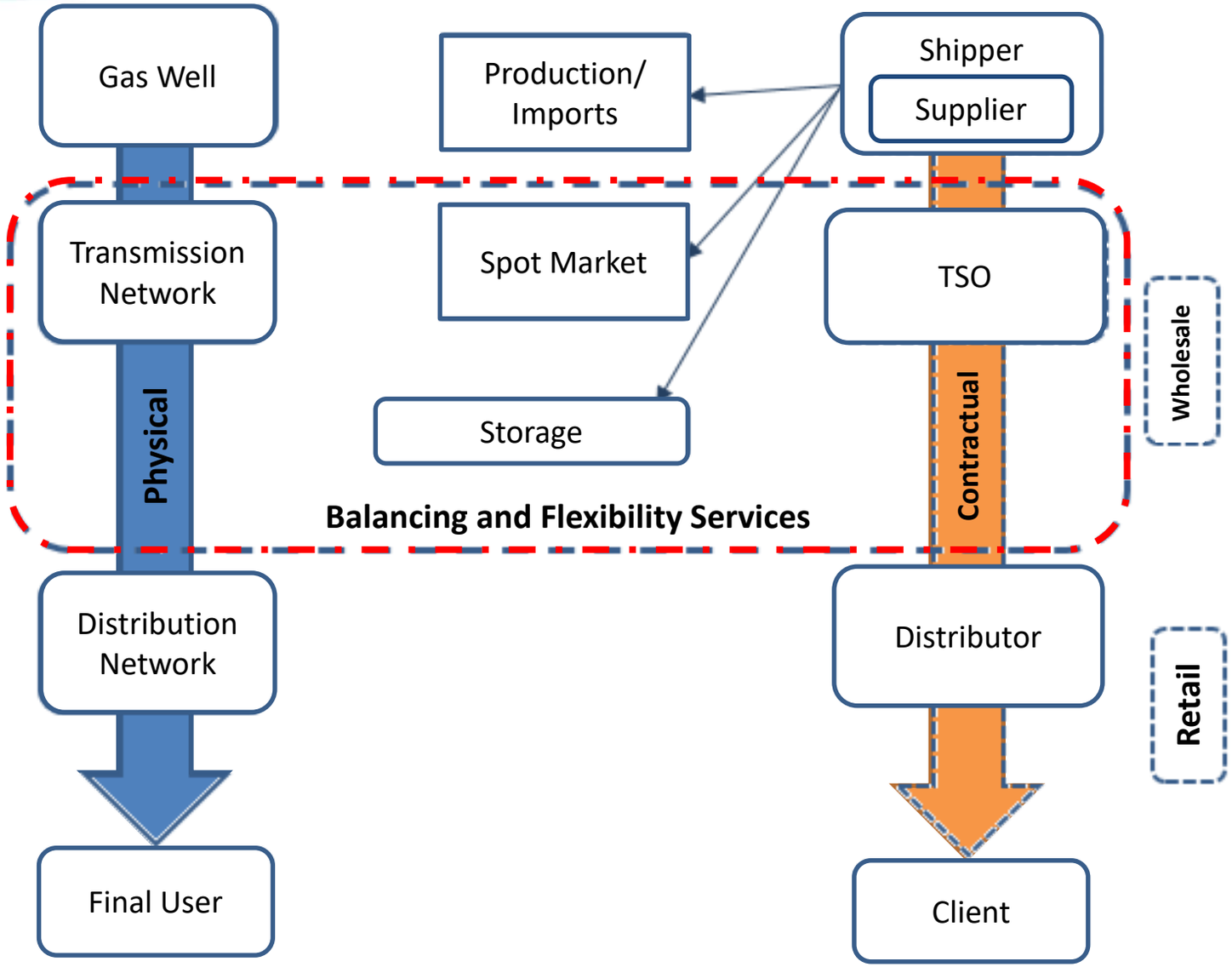


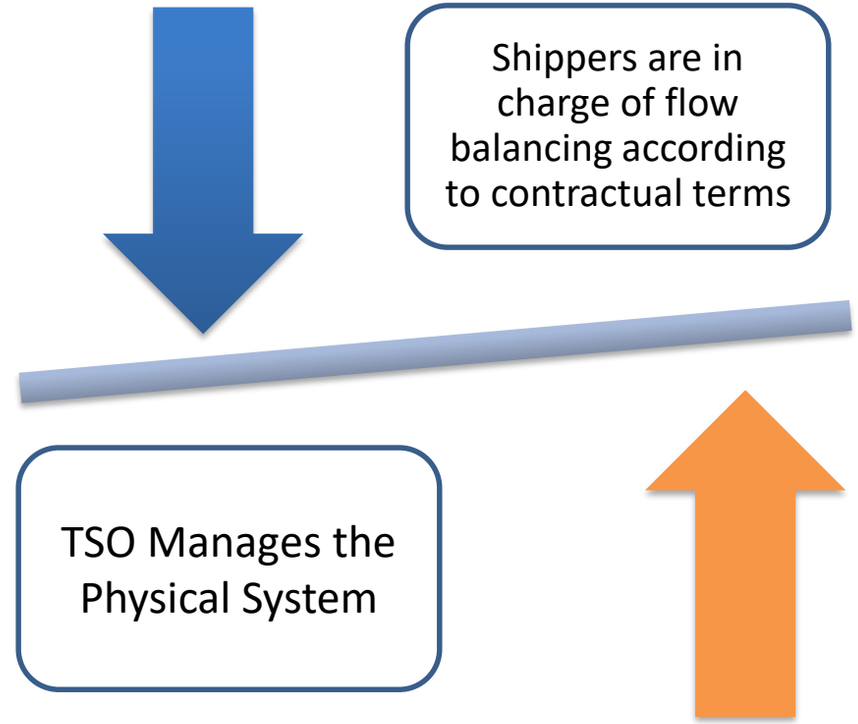
Balancing Regime Definition



Gas balancing is referred as an absorbing mismatching capacity among transmission system inflows and outflows in terms of its physical boundaries.

TSOs and Shippers Balancing Perspectives





Balancing Dimensions

Physical Size

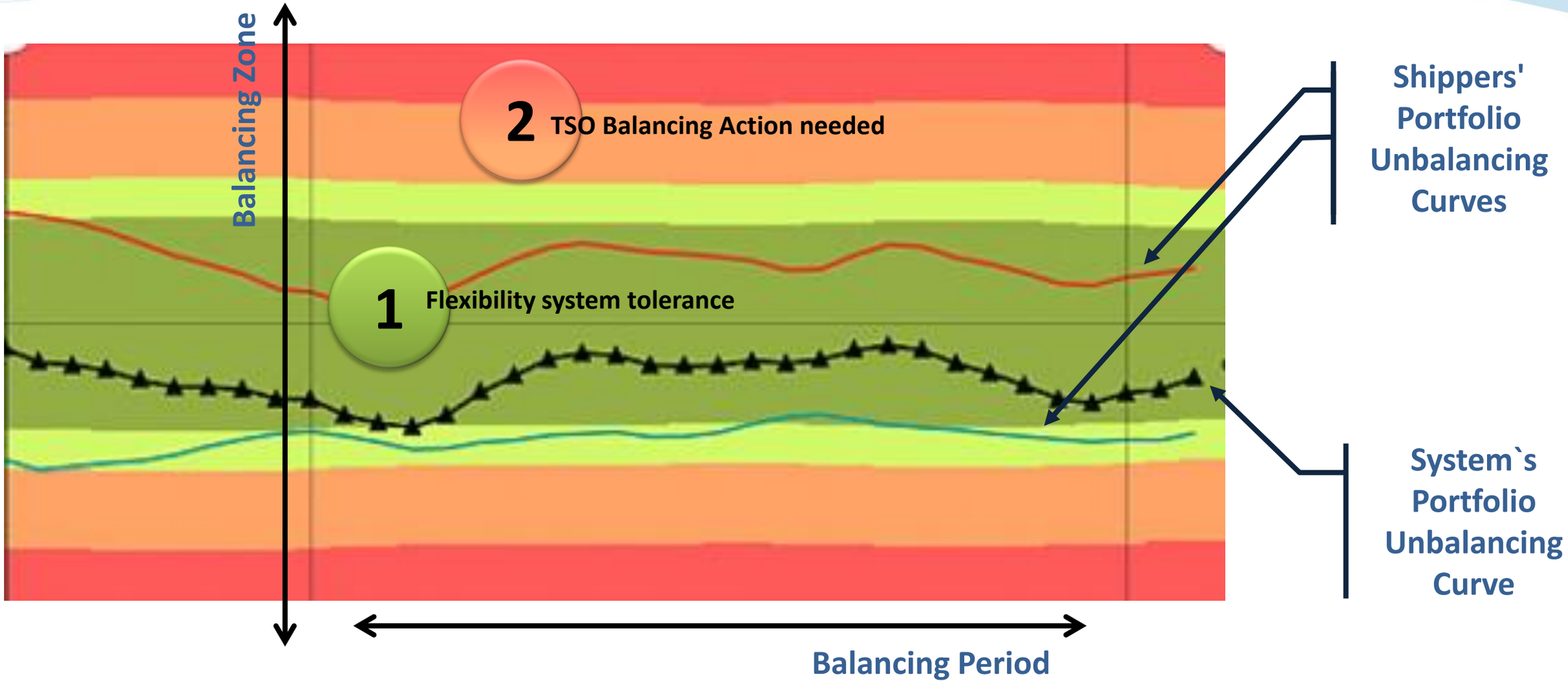
The physical/locational dimension is defined by the **size of the balancing zone**, in which shippers may use any of its points to balance their flows.

Temporal

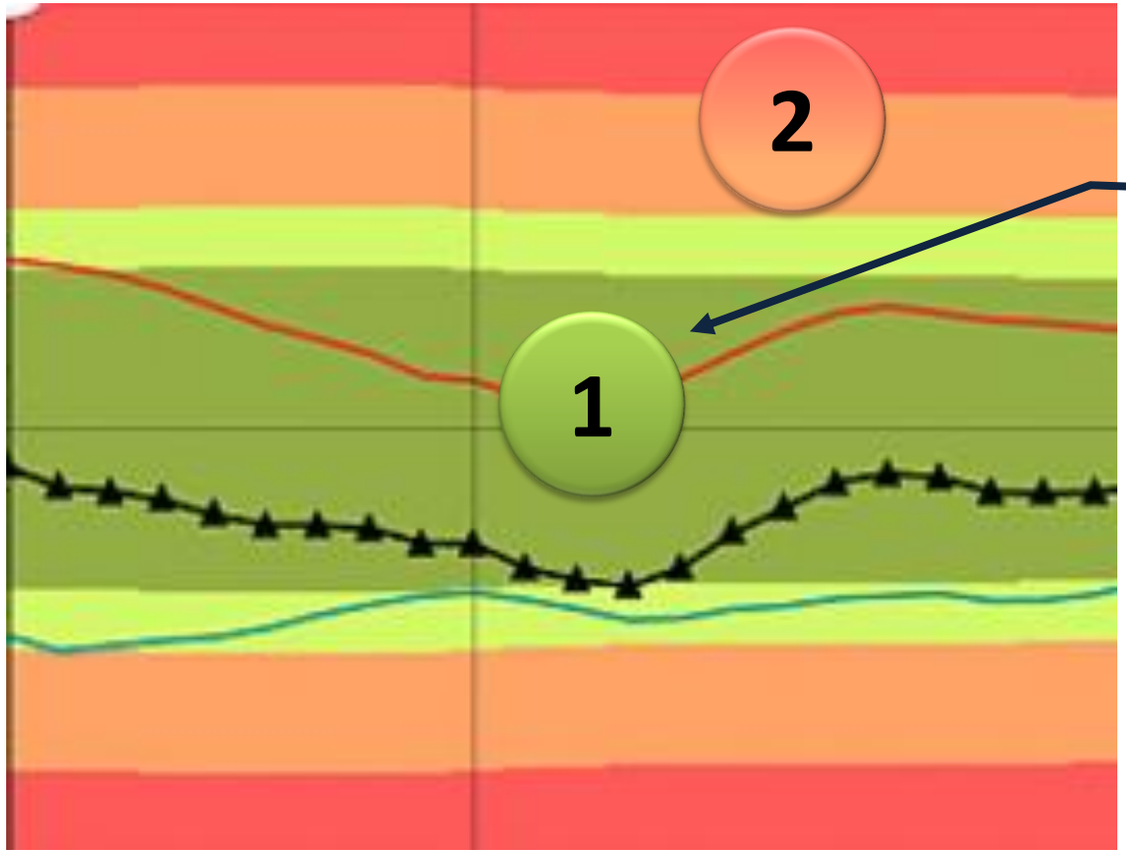
The temporal dimension is defined as the **balancing period**, after which remaining gas balance will be traded and penalties will be charged to unbalanced shippers, according to contractual rules.

Shippers may correct their position during the balancing period, as far as, during this period, the TSO is in charge of taking balancing actions and unbalanced position **may not generate penalties to system users.**

Balancing Operational Guidelines



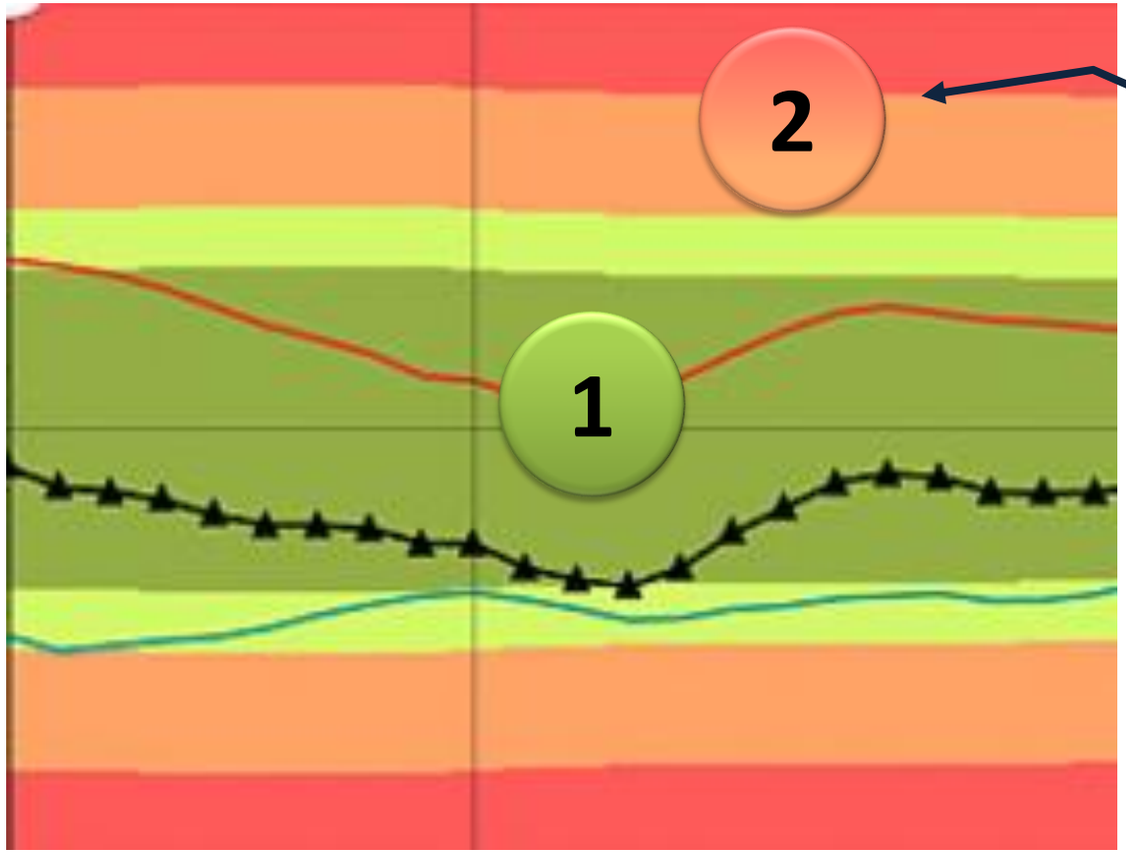
Balancing Operational Guidelines



I. Manage supply/demand "***misforecasting***", including **service failures**;

II. Offer unbalance tolerance by the end of the balancing period, allowing that shippers may carry unbalancing positions for the further period and avoiding an eventual gas right off.

Balancing Operational Guidelines



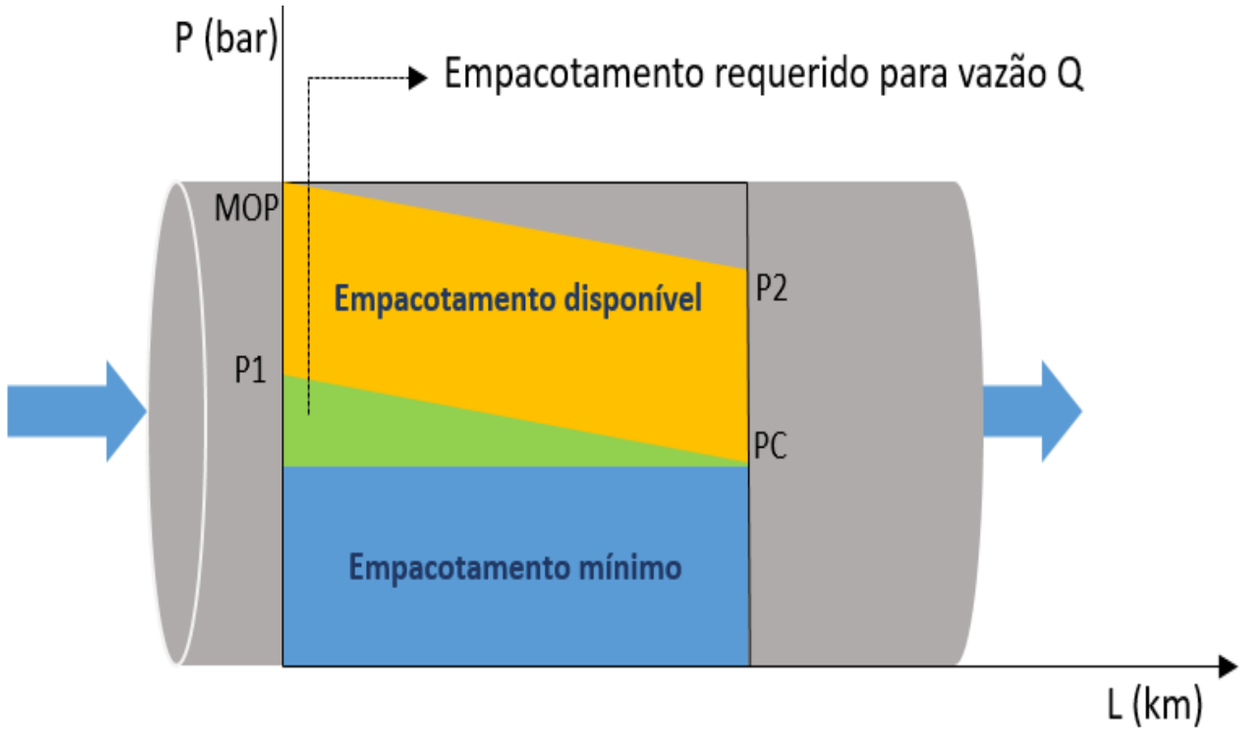
I. Shippers do not accomplish the requested nomination.

II. Shippers accomplish the requested nomination, **but there are local or temporal gas flow mismatches** , including those caused by physical and/or contractual split.

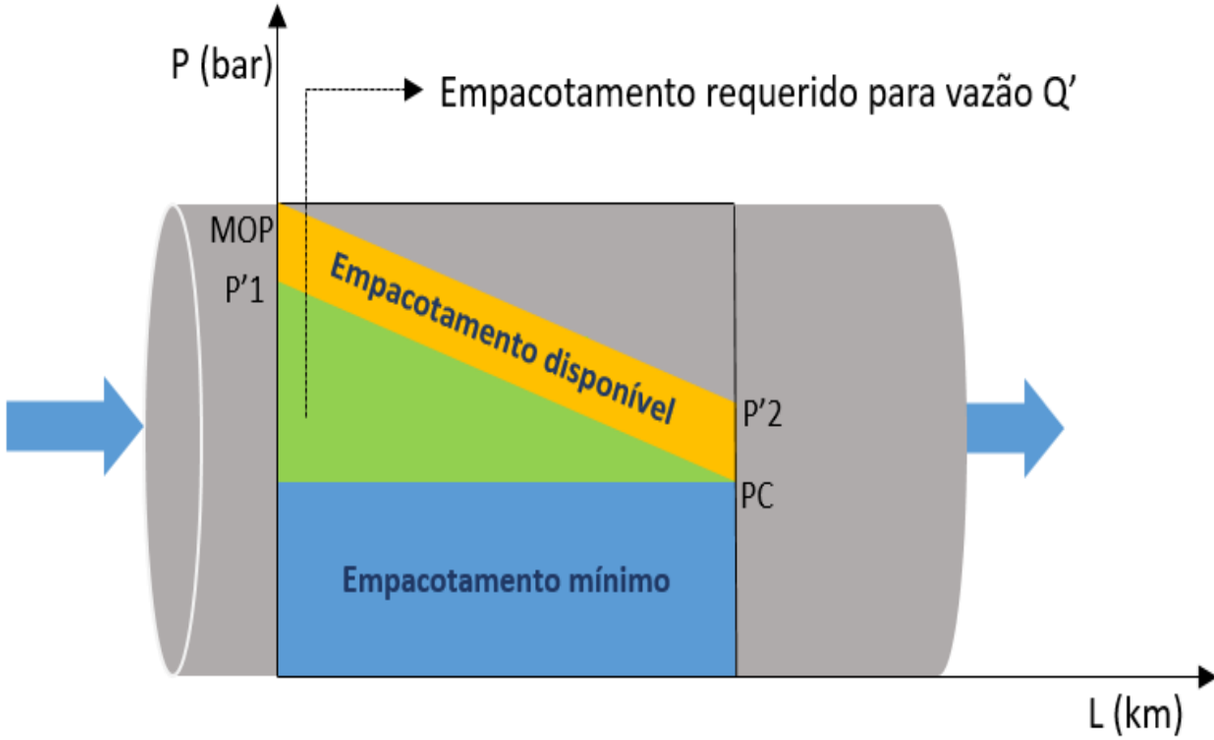
In both cases, physical must be kept by TSO, although different rewards and/or cost allocation mechanisms shall be applied.

Flexibility x Transmission Capacity

Technical Capacity 1



Technical Capacity 2

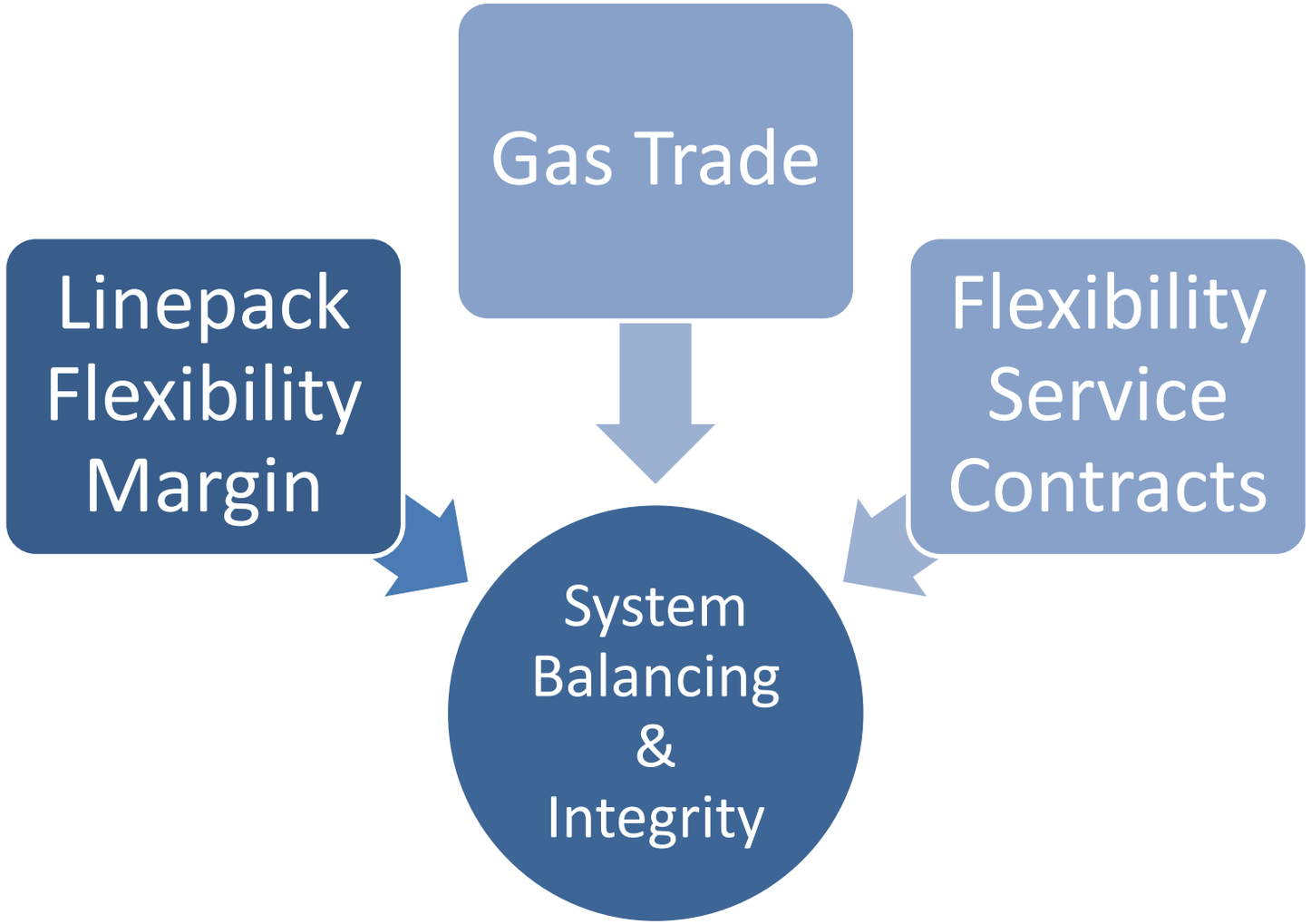


System linepack has 2 different components:

(i) fixed minimum amount to deal with minimum pressure operational condition

(ii) additional variable amount to compensate eventual pressure falling due to flow rate

TSOs Balancing Tools



Neutrality Balancing Principle

Article 35. Principles of neutrality mechanism - Network Code on Gas Balancing of Transmission Networks

"The TSO shall not gain or lose by the payment and receipt of Daily Imbalance Charges, Within Day Charges, Balancing Actions charges and other charges related to its Balancing Activities. "

Final Remarks

- The entry exit model contributes to the **development of gas trade** and new participants in the market, **promoting a virtuous competitive cycle**.

- The presence of several players demands **common balancing rules** in order to keep system **integrity and efficiency**.

- The balancing regime **aims at reducing TSO`s intervention**, developing a new set of rules and behaviors in order to allow a competitive market with multiple payers in the long run.

- **Flexibility and available capacity constitute a permanent trade off** to gas system, that is reflected in both tariff and product design to be chosen by each market.

Questions?

Thank you for your attention.