

Coordinated Balancing Areas and Targets

Network Code Electricity Balancing 3rd Public Workshop

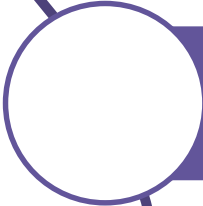
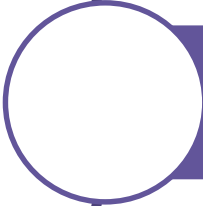
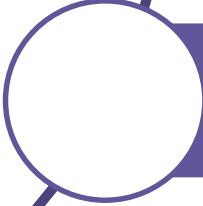
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Disclaimer: Presentation based on the draft version 1.30
of NC EB



76 comments were received on Article 11 on Coordinated Balancing Area. The main concerns are:

-  **Scope of a CoBA cooperation (further details on common proposal, framework)**
-  **Improved reference to targets, introduction of intermediate targets**
-  **Need for clarification (e.g. Which incompatibilities)**

Coordinated Balancing Area (CoBA)

- FWGL gives a clear obligation to TSOs:
 - “TSOs are responsible for organising balancing markets and shall strive for their integration [...]”
FWGL on Electricity Balancing, p.12 and Art.11, Draft EBNC
 - Obligation to cooperate in procurement of Balancing Energy, however, FGWL do not stipulate by who and how this is done before the target model is implemented, nor how cooperation is established for the Exchange of Balancing Capacity
- Proposed solution: Coordinated Balancing Area

Coordinated Balancing Area (CoBA)



Why do we need a new concept?

- Create concrete obligations for cooperation on the way to the targets
 - Separate TSOs involved in cooperation from those not involved
 - Accommodate existing initiatives
 - Allow flexibility → foster cooperation → achieve integration
- ➔ Facilitate the ambitious targets of the FWGL Balancing

Coordinated Balancing Area means a cooperation with respect to the Exchange of Balancing Services between two or more Transmission System Operators.

Coordinated Balancing Area (CoBA) – Article 11

Flexible obligation to cooperate in form of a Coordinated Balancing Areas:

- Each TSOs shall cooperate with at least one TSO in form of a CoBA
- TSOs can choose at least one standard product for the Exchange of Balancing Energy or Imbalance Netting
- CoBAs for Exchange of Balancing Capacity and Exchange of Balancing Energy shall be consistent
- Entitled to Exchange of Balancing Services between interconnected CoBAs
- Steps to form a CoBA
 - Common proposal (framework, ...)
 - Terms & Conditions
 - Functions (algorithms)

Area Definition in Balancing: CoBA

May exchange Balancing Services between Co-ordinated Balancing Areas, based on the same standard products already exchanged within them

Coordinated Balancing Area 1

Coordinated Balancing Area 2

Cooperation per Balancing Service/product

Cooperation per Balancing Service/product

TSO 1

...

TSO n

TSO m

...

TSO x

Area Definition in Balancing: CoBA



Coordinated Balancing Area for standard Balancing Energy product

Mandatory

TSO 1

TSO 2

TSO 3

...

TSO n

Coordinated Balancing Area for corresponding standard
Balancing Capacity product

Allowed

TSO 1

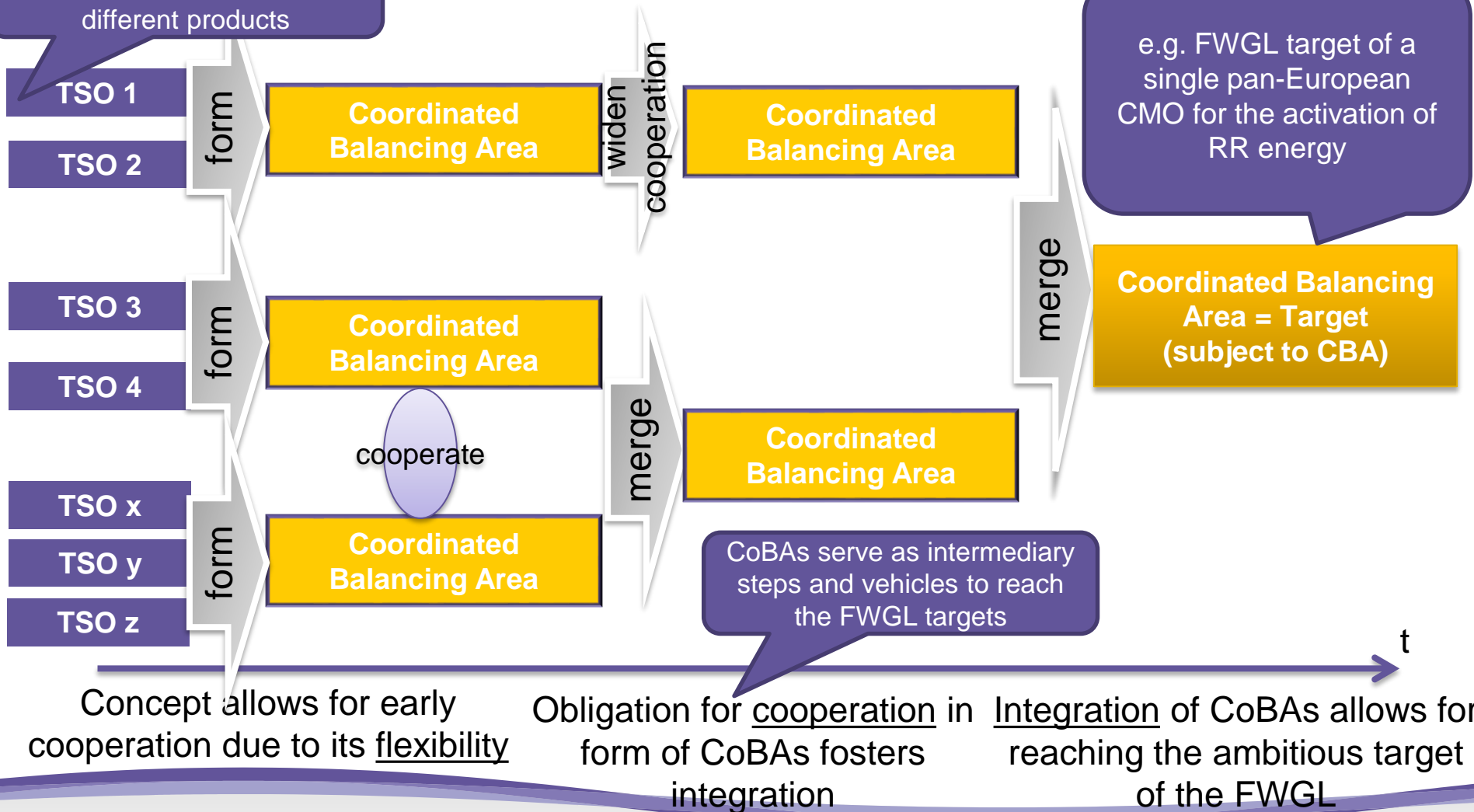
TSO 2

TSO 3

CoBA for
Reserve product
may be smaller;
obligation to
exchange
Balancing
Capacity no
FWGL
requirement

CoBA: Promoting Integration & Flexibility

TSOs may cooperate with different TSOs in CoBAs for different products





27 comments were received on this section. The major themes emerging:

- CoBAs should merge in order to reach the intermediate and the target model.
- CMOL based on TSO-TSO model should be the starting point for developing the target model.
- Improve wording and clarity on the process how TSOs can modify the target models.
- Deletion of targets for imbalance settlement.

High-level summary of changes



Single article on targets has been pulled apart

New section with articles per type of balancing energy have been introduced

Implementation framework for each model has been introduced

New target for imbalance netting process has been introduced

Implementation deadlines remain the same

What is the new structure? #1

- **Applicability**
- **Deadline to implement the intermediate (regional) model**
- **Basics of the intermediate (regional) model**
- **Implementation plan for the intermediate (regional) model**

Article 12
TARGETS FOR THE ACTIVATION OF BALANCING ENERGY BIDS USED IN CROSS-BORDER REPLACEMENT RESERVE ACTIVATION PROCESS

1. This Article applies to Transmission System Operators operating a Reserve Replacement Process as a part of the Load-Frequency-Control Structure as defined in the Synchronous Area Operational Agreement pursuant the Network Code on Load-Frequency Control and Reserves.
2. No later than two years after the entry into force of this Network Code, Transmission System Operator pursuant to paragraph 1 shall form together with other Transmission System Operator pursuant to paragraph 1 a Coordinated Balancing Area for activation of Balancing Energy Bids used in the Cross-Border Replacement Reserve Activation Process and implement the intermediate model pursuant to paragraph 3.
3. The intermediate model for activation of Balancing Energy Bids used in the Cross-Border Replacement Reserve Activation Process shall:
 - (a) be based on a multilateral TSO-TSO Model with a Common Merit Order List;
 - (b) allow Transmission System Operator not to share a certain amount of Balancing Energy Bids as defined in Article 36 ;
 - (c) allow for the existence of more than one Coordinated Balancing Area.
4. No later than six months after the entry into force of this Network Code, Transmission System Operators pursuant to paragraph 2 shall develop and publish a common implementation framework to implement the intermediate model pursuant to paragraph 3. The implementation framework shall include a configuration of the Coordinated Balancing Area and the implementation timeline. Transmission System Operators shall have the right to modify the implementation framework during the implementation of the intermediate model.

What is the new structure? #2

- Possibility to modify the target (European) model

- Basics of the target (European) model

- Implementation plan for the target (European) model

- Deadline to implement the target (European) model

5. No later than three years after the entry into force of this Network Code, all Transmission System Operators pursuant to paragraph 1 shall have right to propose:

- (a) a modification of the target model pursuant to paragraph 6; and
- (b) a modified configuration of Coordinated Balancing Areas for the target model for activation of Balancing Energy Bids used in the Cross-Border Replacement Reserve Activation Process which shall allow more than one Coordinated Balancing Area if it is demonstrated that it does not lead to reduced benefit compared to only one Coordinated Balancing Area.

The proposals pursuant to paragraph 5(a) and (b) shall be supported by a Cost-Benefit Analysis performed by all Transmission System Operators pursuant to paragraph 1 and shall be subject to regulatory approval.

6. The target model for activation of Balancing Energy Bids used in the Cross-Border Replacement Reserve Activation Process shall:

- (a) be based on a multilateral TSO-TSO Model with a Common Merit Order List;
- (b) not allow Unshared Bids for Standard Products.

7. All Transmission System Operators pursuant to paragraph 1 shall develop and publish a common implementation framework to implement the target model for activation of Balancing Energy Bids used in the Cross-Border Replacement Reserve Activation Process. The implementation framework shall include an implementation timeline and a configuration of the Coordinated Balancing Areas pursuant to paragraph 5(b). The implementation framework shall be published:

- (a) in case the modification of the target model pursuant to paragraph 5(a) is requested, no later than 6 months after the regulatory approval of the modified target model;
- (b) in case no modification of the target model pursuant to paragraph 5(a) is requested, no later than one year after the regulatory approval of the modified configuration of Coordinated Balancing Areas.

Transmission System Operators shall have the right to modify the implementation framework during the implementation of the target model.

8. No later than six years after entry in to force of this Network Code, all Transmission System Operators pursuant to paragraph 1 shall implement the target model for activation of Balancing Energy Bids used in the Cross-Border Replacement Reserve Activation Process.



Reserve Replacement Process

3. The intermediate model for activation of Balancing Energy Bids used in the Cross-Border Replacement Reserve Activation Process shall:
 - (a) be based on a multilateral TSO-TSO Model with a Common Merit Order List;
 - (b) allow Transmission System Operator not to share a certain amount of Balancing Energy Bids as defined in Article 36 ;
 - (c) allow for the existence of more than one Coordinated Balancing Area.
6. The target model for activation of Balancing Energy Bids used in the Cross-Border Replacement Reserve Activation Process shall:
 - (a) be based on a multilateral TSO-TSO Model with a Common Merit Order List;
 - (b) not allow Unshared Bids for Standard Products.

Frequency Restoration Process with manual activation

3. The intermediate model for activation of Balancing Energy Bids used in the Cross-Border Frequency Restoration Reserves Activation Process with manual activation shall:
 - (a) be based on a multilateral TSO-TSO Model with Common Merit Order List;
 - (b) allow Transmission System Operator not to share certain amount of Balancing Energy Bids as defined in Article 36 ;
 - (c) allow the existence of more than one Coordinated Balancing Area.
6. The target model for activation of Balancing Energy Bids used in the Cross-Border Frequency Restoration Reserves Activation Process with manual activation shall:
 - (a) be based on a multilateral TSO-TSO Model with a Common Merit Order List;
 - (b) not allow Unshared Bids for Standard Products.

What will be the models? #2 – aFRR & Imbalance netting

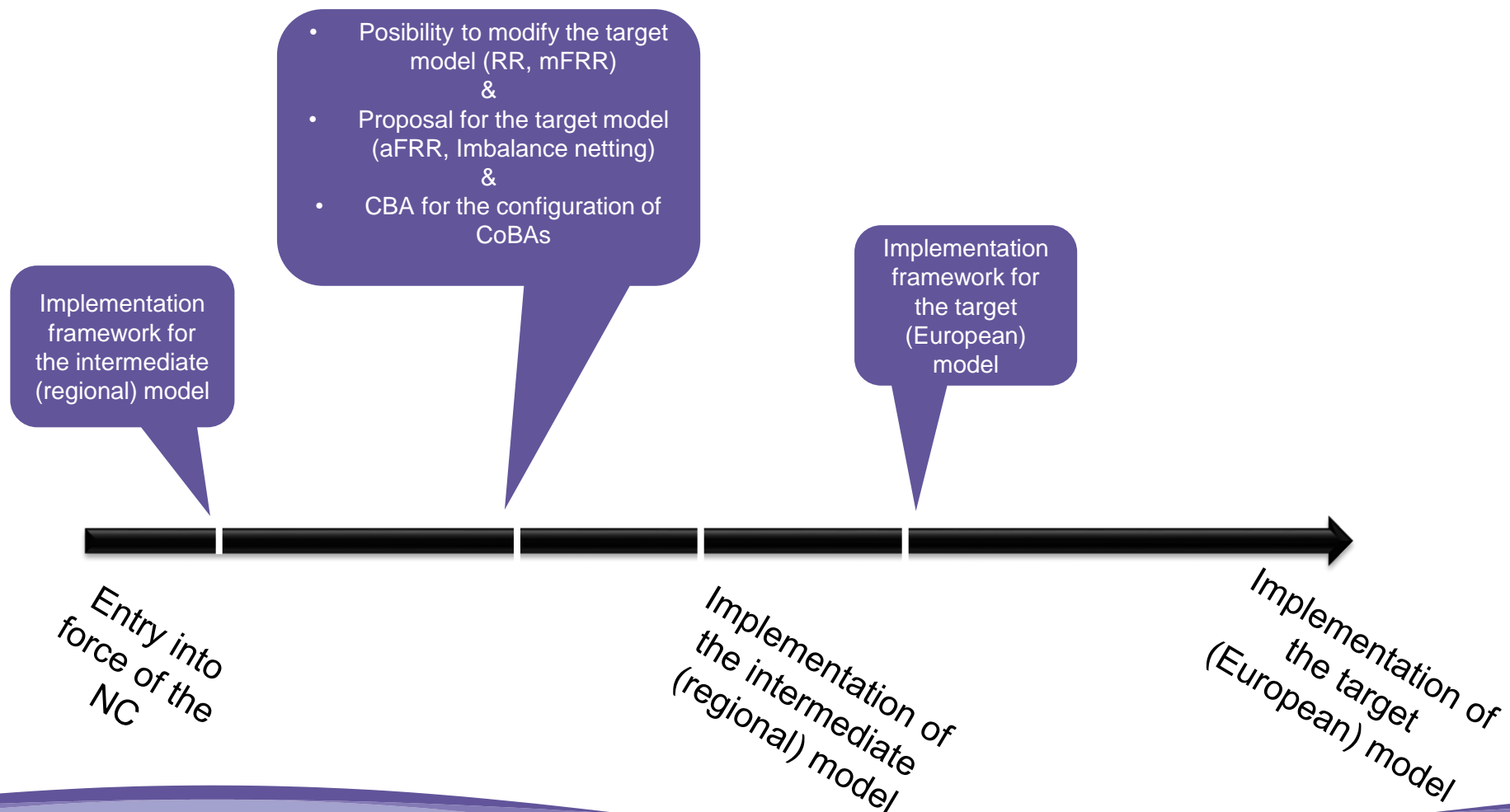
Frequency Restoration Process with automatic activation

3. The target model for activation of Balancing Energy Bids used in the Cross-Border Frequency Restoration Reserves Activation Process with automatic activation shall:
 - (c) be based on a TSO-TSO Model for activation of Balancing Energy Bids;
 - (d) to a maximum extent respect principles of a Common Merit Order List.
5. No later than four years after the entry into force of this Network Code, activation of Balancing Energy Bids used in Cross-Border Frequency Restoration Reserves Activation Process with automatic activation shall be coordinated between Transmission System Operators.

Imbalance Netting Process

3. The intermediate model for Imbalance Netting Process shall:
 - (a) be based on a TSO-TSO Model;
 - (b) allow existence of more than one Coordinated Balancing Area.
5. No later than three years after the entry into force of this Network Code, all Transmission System Operators pursuant to paragraph 1 shall:
 - (a) propose the target model for Imbalance Netting Process;
 - (b) propose a configuration of Coordinated Balancing Areas for the target model for Imbalance Netting Process which shall allow more than one Coordinated Balancing Area if it is demonstrated that it does not lead to reduced benefits compared to only one Coordinated Balancing Area.

What is the general time-line applied in all target articles?



backup



Functions within a CoBA

- Imbalance Netting Process Function
- Reserves Procurement Optimisation Function, in case of Exchange of Balancing Reserves or Sharing of Balancing Reserves ;
- Transfer of Reserves Function, in case the possibility for Transfer of Balancing Reserves is offered;
- **Activation Optimisation Function in case of Exchange of Balancing Energy;** and
- TSO-TSO Settlement Function.

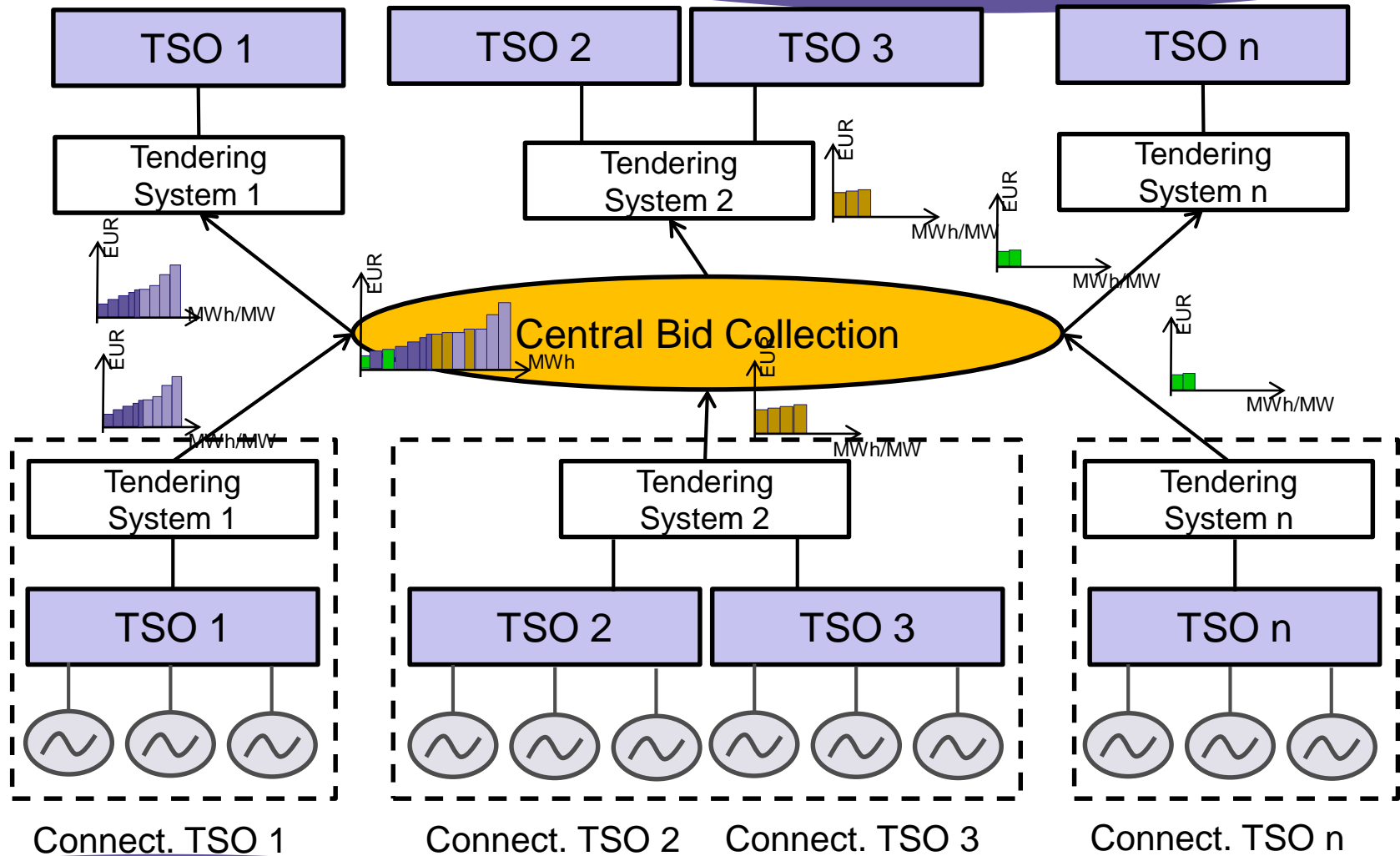
Each entity entrusted with a function pursuant to paragraph shall operate the relevant algorithm developed pursuant to CHAPTER 6.

Activation Optimisation Function



Merit-Order-Lists

Offered Bids



Activation Optimisation Function

