

ELECTRICITY BALANCING GUIDELINE



entsoe
Reliable Sustainable Connected

1

Journey so far..

2

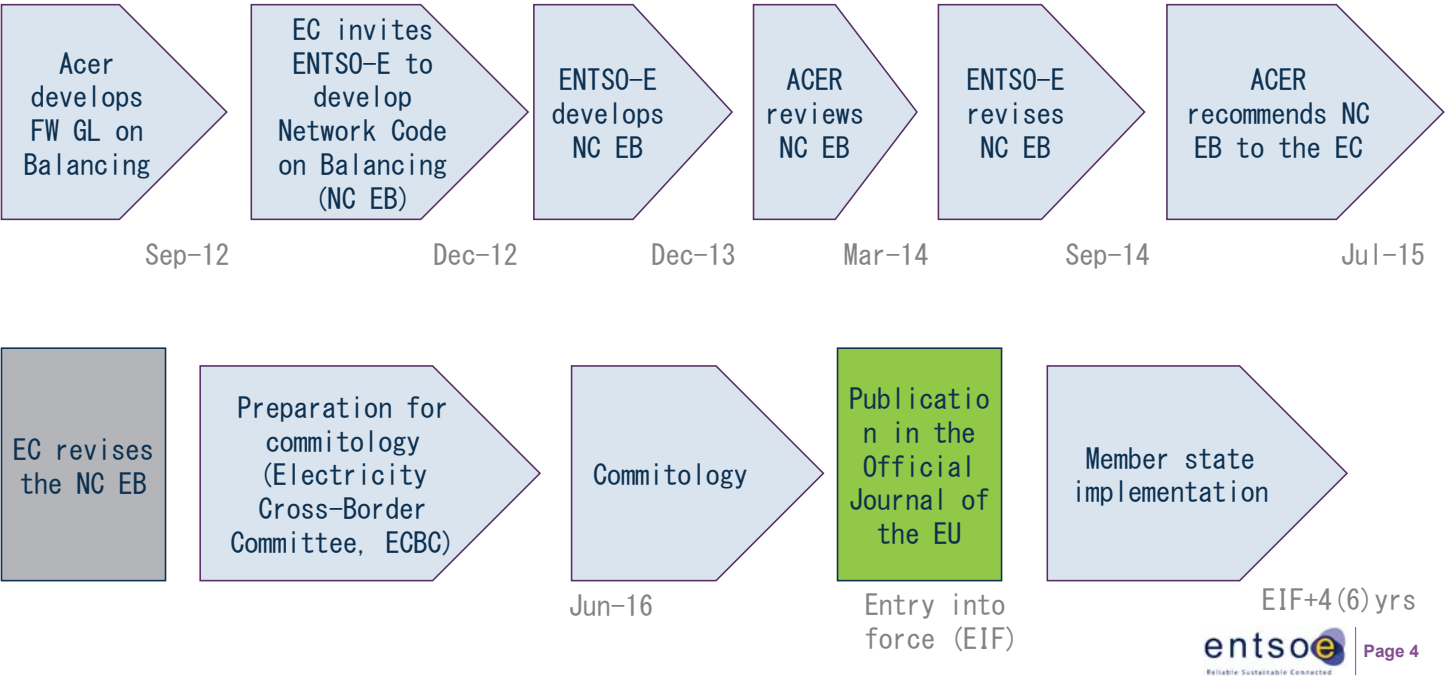
Scope of the Balancing Guideline

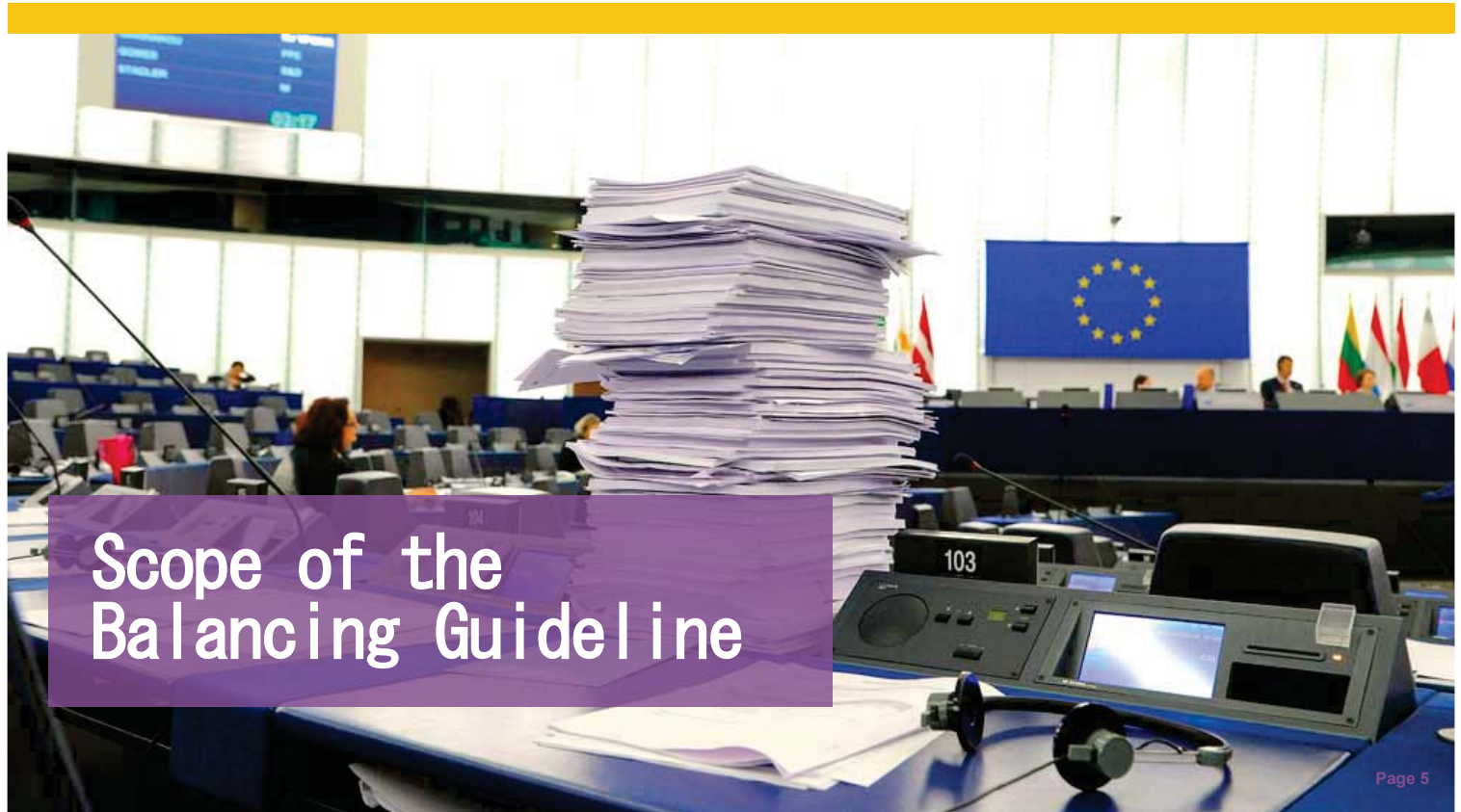
3

Stepwise integration of European
balancing markets



Journey so far..





Current Version of the EB GL

Title 1 General Provisions	<ul style="list-style-type: none">■ Scope<ul style="list-style-type: none">■ Applies in all system states■ Common principles for the procurement and the settlement of frequency containment reserves, frequency restoration reserves and replacement reserves and common methodology for the activation of frequency restoration reserves and replacement reserves■ Definitions■ Consultation and regulatory approval requirements■ Publication of information<ul style="list-style-type: none">■ Detailed requirements for publication of information related to balancing■ Delegation & Assignment<ul style="list-style-type: none">■ Delegation and assignment of TSO activities■ Settlement processes in several countries performed by a third party
Title 2 Elec. Balancing Market	
Title 3 Procurement	
Title 4 Cross Zonal Capacity	
Title 5 Settlement	
Titles 6-10 Various	

Current Version of the EB GL

Title 1 General Provisions	<ul style="list-style-type: none"> ■ Roles and responsibilities <ul style="list-style-type: none"> ■ BSPs, BRPs, TSOs ■ Balancing energy prices not to be predetermined in contracts for capacity ■ Terms and conditions related to balancing ■ Target articles <ul style="list-style-type: none"> ■ Replacement Reserves / Imbalance Netting ■ Manual / Automatic Frequency Restoration Reserves ■ Implementation, governance and operation of European Platforms ■ Requirements for standard and specific products <ul style="list-style-type: none"> ■ TSOs jointly design standard products for balancing energy and balancing capacity ■ Specific products used locally or converted ■ Balancing Energy Gate Closure <ul style="list-style-type: none"> ■ Must be after 60mins and be harmonised for standard products
Title 2 Elec. Balancing Market	
Title 3 Procurement	
Title 4 Cross Zonal Capacity	
Title 5 Settlement	
Titles 6-10 Various	

Current Version of the EB GL

Title 1 General Provisions	<ul style="list-style-type: none"> ■ Activation of balancing energy bids <ul style="list-style-type: none"> ■ Activation for purposes other than balancing ■ Unavailable bids <ul style="list-style-type: none"> ■ Requirements for unshared bids ■ Restricted bids allowed for internal congestion ■ Activation Optimisation Function <ul style="list-style-type: none"> ■ Common Merit Order Lists ■ TSOs strive to balance system using CMOLs ■ Balancing Capacity <ul style="list-style-type: none"> ■ Market based procurement ■ Exchanging balancing capacity in a TSO-TSO model ■ Transfer of balancing capacity between BSPs ■ TSO - BSP Model
Title 2 Elec. Balancing Market	
Title 3 Procurement	
Title 4 Cross Zonal Capacity	
Title 5 Settlement	
Titles 6-10 Various	

Current Version of the EB GL

Title 1 General Provisions	<ul style="list-style-type: none"> ■ Use, calculation and pricing of cross zonal capacity ■ Exchange of balancing capacity and sharing of reserves <ul style="list-style-type: none"> ■ Harmonised proposal for the allocation of cross zonal capacity ■ Allocation of cross zonal capacity for exchanging Frequency Containment Reserves ■ Cooptimised Allocation Process <ul style="list-style-type: none"> ■ All TSO proposal ■ Actual market bids and actual balancing capacity bids ■ Market-Based Allocation Process <ul style="list-style-type: none"> ■ Capacity Calculation Region Proposal ■ Forecasted market bids and actual balancing capacity bids ■ Allocation Based on economic efficiency analysis <ul style="list-style-type: none"> ■ Bilateral basis for DC borders only ■ Forecasted market bids and forecasted balancing capacity bids
Title 2 Elec. Balancing Market	
Title 3 Procurement	
Title 4 Cross Zonal Capacity	
Title 5 Settlement	
Titles 6-10 Various	

Current Version of the EB GL

Title 1 General Provisions	<ul style="list-style-type: none"> ■ Settlement principles <ul style="list-style-type: none"> ■ Prices reflecting the real time value of energy ■ Proposals for scarcity pricing ■ Marginal pricing for balancing energy ■ Negative prices allowed ■ TSO-TSO and TSO-BSP Settlement ■ TSO-BRP Settlement (i.e. Imbalance Settlement) <ul style="list-style-type: none"> ■ Harmonisation of main features ■ Imbalance adjustment required for every activation ■ Harmonisation of ISP <ul style="list-style-type: none"> ■ Exemption possible on a SA level
Title 2 Elec. Balancing Market	
Title 3 Procurement	
Title 4 Cross Zonal Capacity	
Title 5 Settlement	
Titles 6-10 Various	

Current Version of the EB GL

Title 1
General Provisions

Title 2
Elec. Balancing
Market

Title 3
Procurement

Title 4
Cross Zonal
Capacity

Title 5
Settlement

Titles 6-10
Various

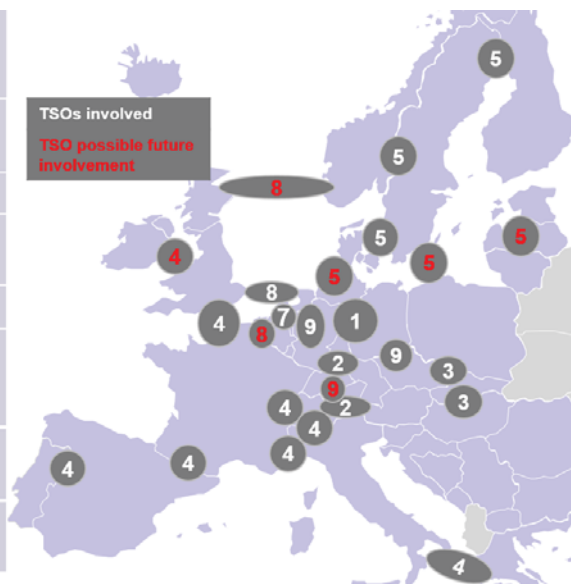
- Algorithm Principals
- TSO reporting and monitoring
- Cost Benefit Analysis
- Derogations
 - 2 year derogation can be requested from local NRA
 - Can only be requested once
 - Can be applied to:
 - Deadlines for joining EU platforms
 - Changing gate closure time for ISP process in Central Dispatch Systems
 - Changes associated with imbalance settlement (to avoid changing twice)
- Transition Period
 - 1 year transition period for articles without specific timescales



Stepwise integration of European balancing markets

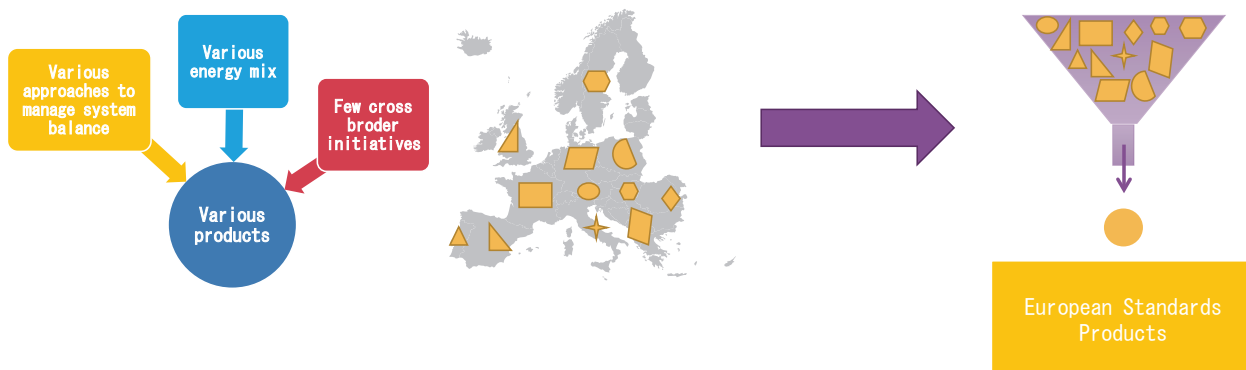
Initial Pilot Projects established in Q2-13

1	Common Merit Order (CMO) for mFRR and aFRR with real time flow based congestion management
2	Cross-border market for FCR based on TSO-TSO model
3	E-GCC
4	TERRE: Trans-European Replacement Reserves Exchange
5	Development of the Nordic RPM
7	Design and evaluation of a harmonised reactive balancing market with XB optimisation of Frequency Restoration (project on hold)
8	BritNed / TenneT / National Grid Balancing Services (project on hold)
9	IGCC Imbalance Netting, aFRR-Assistance and Flow-Based Congestion Management.



Harmonisation and proposal for Standard Products

Our target...



Timelines

Obligations	2017				2018				2019				2020				2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Replacement Reserves – RR					Impl Framework EIF+6m						RR EU Platform EIF+2yrs							TSO Join Derogation +2yrs										
Imbalance Netting					Impl Framework EIF+6m						IN EU Platform EIF+2yrs							TSO Join Derogation +2yrs										
Frequency Restoration Reserves								Impl Framework EIF+1yr										FRR EU Platform EIF+4yrs									TSO Join Derogation +2yrs	
Imbalance Settlement								Harmonised Proposal EIF+1yrs							ISP & Proposal Impl EIF+3yrs													
TSO Proposals								Pricing EIF+1yr			CZC Allocation EIF+2yrs																	
General Compliance								General Compliance EIF+1yr																				
					Transition Period																							

Key

Proposal

Deadline

Derogation

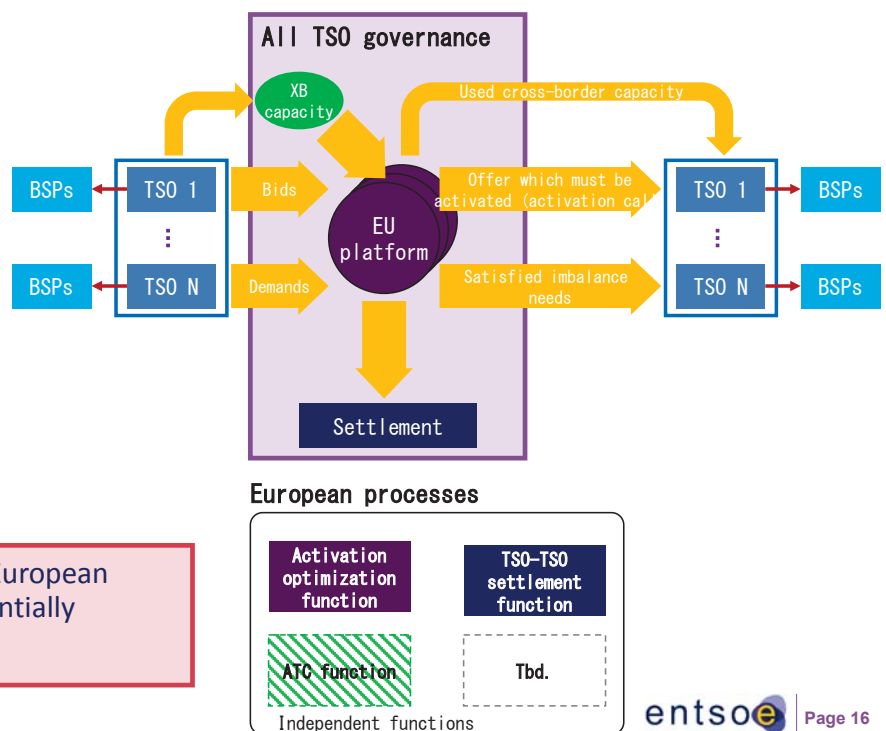
entsoe

Page 10 of 10

European Platforms

- European platform coordinates balancing energy activation requests of TSOs.
- As a TSO-TSO model is applied, activation requests and communication with national BSPs remains local.
- European platform comprises independent functions closely interacting with different (local) IT systems.

» Platform describes business processes on European level supported by different functions potentially performed by different IT systems.





Reliable Sustainable Connected