

SEM Compliance with Guideline on Electricity Balancing (EBGL) TSO Workshop

21/05/2021 & 03/06/2021





EBGL implementation in Continental Europe and the Nordics

21 May 2021

Electricity Balancing Guideline (EBGL)

- Objective: *Enhance the efficiency of the European balancing processes by integration of markets for:*
 - Balancing energy
 - Balancing capacity
- Prerequisite is level playing field, which requires harmonisation
 - Standard products
 - Market rules
 - Settlement
- EBGL is in implementation phase:



Scope of EBGL

Frequency Containment

- Local fast control
- Stops a frequency change

Imbalance netting

- Between areas
- Reduces reserve activation

Automatic Frequency Restoration

- Central automatic control
- Restores balance

Manual Frequency Restoration

- Central manual control
- Restores balance

Replacement Reserves

- Replacement of Reserves

In Ireland and Northern Ireland¹

- *Primary and Secondary*
- *Implicitly done within SEM*
- *Not implemented*
- *TOR1/TOR2*
- Replacement Reserves

Expected annual benefits of EBGL

- Estimated annual benefits integrated balancing energy market 479 M€

	Balancing energy	Balancing reserves	Option B	aFRR	mFRR
Lower required volumes	Netting of imbalances	Netting of imbalances AND Risk pooling (dimensioning)	Upwards activation	6.6 TWh (-54%)	3.2 TWh (-33%)
Greater allocative efficiency	Cheaper resource displaces more expensive resource (procurement)		Downwards activation	4.7 TWh (-62%)	3.9 TWh (-29%)
Enhanced competition	Larger number of providers increases competitive pressure		Upwards activation cost	419 M€ (-61%)	255 M€ (-42%)
Greater accessibility for RES and DR	Product definitions and procurement processes are amended (alongside product and procurement standardisation) to facilitate the participation of RES and DR		Downwards activation cost	- 226 M€ (+57%)	- 265 M€ (+22%)
			Total activation cost	193 M€	- 10 M€
			Total	183 M€	
			Cost reduction (savings)	479 M€	
			Savings per MWh³²	13.0 €/MWh	

Source: Study on behalf of the European Commission by COWI, Artelys, Frontier: "Integration of electricity balancing markets and regional procurement of balancing reserves", EC, October 2016

Balancing energy exchange market platforms

Frequency Containment

Imbalance netting

Automatic Frequency Restoration

Manual Frequency Restoration

Replacement Reserves

IGCC

- Started in 2010
- 17 countries connected by end of 2021

Picasso

- Go-live 2022Q3
- 13 countries connected by end of 2023

Mari

- Go-live 2022Q3
- 22 countries connected by end of 2023

Terre

- Go-live in 2020
- 6 countries connected

Picasso: Imbalance netting and aFRR exchange



- Picasso will integrate imbalance netting and aFRR activation
- for two synchronous areas:
 - Nordics
 - Continental Europe
- Exchange will be over HVDC interconnectors between Nordics and Continental Europe



Harmonisation challenges: Full Activation Time (FAT) for aFRR being harmonised to 5 minutes



Full Activation Time (FAT)¹:

- < 3 minutes
- 3 - 6 minutes (*typically 5 minutes*)
- 6 - 9 minutes
- 10 minutes
- 15 minutes
- No generic minimum requirements, minimal ramp rate for each power plant agreed individually
- No information

Source: E-Bridge report on behalf of ENTSO-E 'Impact of merit order activation of automatic Frequency Restoration Reserves and harmonised Full Activation times'

Exchange of reserve capacity – voluntary in EBGL

- EBGL includes rules for voluntary exchange of Reserve Capacity
- This requires a methodology for capacity allocation for reserves
- Exchange of Frequency Containment Reserves (FCR)
 - Exchange between AT, CH, BE, DE, FR, NL via joint FCR capacity market
 - Bilateral FCR exchange between Nordic TSOs and between SK and CZ
- Exchange of manual Frequency Restoration Reserves (FRR)
 - mFRR Exchange between FI and EE, within Nordics, DE and AT

Wrap-up

- Most countries in Continental Europe and in the Nordics take part in integrated balancing markets
- Detailed methodologies are largely completed
- Implementation is ongoing
- Large efforts and compromises needed to reach harmonised products and integrated markets

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Short summary presentations and open discussion of each of the 23 potential issues in the consultation

21/05/2021



SEM Compliance with Guideline on Electricity Balancing (EBGL)

- TSOs completed analysis of each individual paragraph in the EBGL for submission to the RAs;
- Included references to the EBGL related methodologies, primarily Imbalance Settlement Harmonisation Proposal (ISHP) and Pricing Proposal (PP);
- High level conclusion: The SEM is currently compliant in material respects with the EBGL requirements;
- 271 paragraphs found to be N/A to local compliance at this time (e.g. applies at all-TSO level through ENTSO-E, or related to processes not active in the SEM, either not expected to ever be relevant, or may become relevant in the future but does not impact compliance now);
- 96 paragraphs considered compliant from initial analysis;
- 46 paragraphs considered requiring additional analysis to determine compliance, combined and outlined into 23 potential issues – focus of consultation.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- Following further analysis of the potential issues:
 - 10/23 considered compliant (typo in published document saying 9/23);
 - 5/23 considered compliant but small changes still suggested as useful (typo in published document saying 6/23);
 - 4/23 considered inconclusive;
 - 4/23 considered requiring changes to meet EBGL requirements.
- Analysis paper accompanying consultation SEM-21-017 outlines the TSO positions on each of these issues, with background information and rationale to assist participants in understanding these positions;
- Overall conclusion is that the SEM is considered substantially compliant with the EBGL in material respects, with a small number of less material areas where changes may be required to meet the EBGL requirement;
- Seeking participant feedback on whether they agree with the overall conclusion of the analysis work, and with the position in each of the more detailed potential issue areas.

Summary of Potential Issues in Consultation Document

Title in Report	High Level Position	Preliminary View on Potential Impact of Change if Required
2.1.1 Core Pricing Issues: Non Marginal Flagging Functionality	Inconclusive	TSC change and parameter
2.1.2 Less Core Pricing and Settlement Issues: Market Backup Price	Changes required	TSC change and price system
2.1.3 Less Core Pricing and Settlement Issues: Administered Scarcity Price	Inconclusive	TSC change and rarely used price system
2.2.1 Core Pricing Issues: PMEA and PRBO Functionality	Compliant	N/A
2.2.2 Core Pricing Issues: 5 Minute versus 30 Minute Periods	Compliant	N/A
2.2.3 Less Core Pricing Issues: Congestion and Price Setting	Compliant	N/A
2.2.4 Less Core Pricing Issues: Pricing Parameters	Compliant	N/A
2.2.5 Less Core Pricing Issues: Imbalance Positive and Negative Sign Convention	Compliant with potential useful change	TSC change only
2.3.1 Governance and Changes: Modifications Processes	Inconclusive	TSC change and new processes
2.3.2 Governance and Changes: General Governance of Terms and Conditions Proposal	Inconclusive	Either TSC change or new document, and new processes
2.3.3 Gate Closure Time: Integrated Scheduling Process Gate Closure Time	Changes required	TSC change and bidding, scheduling, and profiling systems
2.4.1 Governance and Changes: Formal Complaints Channel	Compliant	N/A
2.4.2 Data Requirements: Publishing Offer Prices and Quantities	Compliant	N/A
2.4.3 Data Requirements: Anonymised Incremental / Decremental Prices	Compliant	N/A
2.4.4 Definitions: Calculations of Imbalance and Imbalance Adjustment	Compliant with potential useful change	Either TSC change or new document
2.4.5 Definitions: EBGL Objectives	Compliant with potential useful change	TSC change only
2.4.6 Definitions: Balance Responsibility	Compliant with potential useful change	TSC change only
2.4.7 Specific Products: Integrated Scheduling Process Bids	Compliant	N/A
2.5.1 Core Settlement Issues: Pumped Storage Units	Changes required	TSC change and settlement system
2.5.2 Core Settlement Issues: Demand Side Units	Changes required	TSC change and settlement and meter systems
2.6.1 Core Settlement Issues: Settling Units at "Better" of Imbalance Settlement Price and Bid Offer Price	Compliant	N/A
2.6.2 Less Core Settlement Issues: Additional Settlement Items	Compliant	N/A
2.6.3 Less Core Settlement Issues: Clarifying the Default Values for Variables When No Data Available	Compliant with potential useful change	TSC change only

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- Consultation period ends 18/06/2021;
- Following SEMC decision, if any areas are found to need changes, these will enter the normal process for market changes:
 - Modifications to the TSC to be raised by SEMO;
 - If the modification is approved and requires system changes to enact it, the change requests are drafted and entered into the normal prioritisation process for system changes, assessed against other required changes;
 - Expected to be delivered as part of a normal system update, timing dependent on the size and priority of the work for each individual change.
- Some areas expected to be a large amount of work which may require long delivery times, or may already be considered under a different parallel piece of work the completion of which would implicitly deliver the changes needed for the EBGL.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.4.1 Governance and Changes: Formal Complaints Channel
- TSO position: Compliant;
- Why considered potential issue: EBGL has requirements for parties being able to raise complaints against the TSO's obligations under the regulation. While there are formal means for raising complaints in regards to many aspects of the obligations, such as calculating settlement and prices, it was uncertain whether a formal approach would be needed to cover all other possible complaints not already covered;
- Why TSO reached position: It was determined that a formal approach would not be required, and may not even be preferred, as there is always the possibility for participants to raise complaints directly with the relevant RAs ad hoc. Doing so without a codified process means that there is more flexibility in how the complaint can be raised, where it does not have to meet certain criteria, limitations, or templates such as those required under the formal processes in the TSC.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.6.2 Less Core Settlement Issues: Additional Settlement Items
- TSO Position: Compliant;
- Why considered potential issue: There are a number of elements of settlement in the SEM arrangements which the EBGL does not either explicitly have requirements on, or have requirements to prevent. Therefore it was unclear as to whether the lack of mention would mean that these additional arrangements are allowed without any requirements on how they are structure, or if the EBGL not mentioning them would actually mean that these additional arrangements would not be allowed. These arrangements include Uninstructed Imbalance Charges, Fixed Costs, Non-Firm, and “Undo” actions;
- Why TSO reached position: Upon further investigation, the right given under Article 44(3) for settlement approaches to be proposed and approved for “other costs related to balancing” appear to cover all of these additional settlement items, and therefore their inclusion in the SEM arrangements should be considered compliant since the SEM Committee have approved the Trading and Settlement Code containing them.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.4.7 Specific Products: Integrated Scheduling Process Bids
- TSO position: Compliant;
- Why considered potential issue: Different areas of the EBGL and its methodologies seem to suggest that the types of bids used in the SEM could be seen as their own separate bid type, while other areas would seem to suggest they should be seen and treated as Specific Products as defined under the EBGL (which triggers a number of additional requirements to be met). Further analysis was needed to determine whether the Specific Product requirements were relevant to the SEM's bids;
- Why TSO reached position: The Integrated Scheduling Process is allowed for Central Dispatch Systems under Article 14 once approved, and therefore it is not considered that further approvals would be needed for the bids which enable that process. Other Central Dispatch System Operators consulted on this agreed that this was their interpretation for these bid types.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.2.5 Less Core Pricing Issues: Imbalance Positive and Negative Sign Convention
- TSO Position: Compliant with potential useful changes;
- Why considered potential issue: In the ISHP, the total system imbalance volume is used to denote if the system is long or short, and therefore which boundary conditions and marginal pricing approaches are needed to calculate imbalance prices. The sign convention is the opposite of the closest similar variable, the Net Imbalance Volume (NIV): if the system is “long” (more decremental volumes than incremental volumes), the EBGL sign convention is positive while the NIV is negative; if the system is “short” (more incremental volumes than decremental volumes), the EBGL sign convention is negative while the NIV is positive;
- Why TSO reached position: The NIV and the ISHP total system imbalance volume are describing two different things, despite their similar names. NIV is describing the sum of the volumes of balancing actions taken, while the total system imbalance volume is describing the sum of the imbalance volumes those balancing actions are being taken to correct. The correct logic required for the price calculation by the EBGL is applied for the equivalent value of NIV when it signifies system long or short. This total system imbalance is only used for these purposes: otherwise the description of the sign conventions for volumes, prices, and cash flows in the EBGL match up between the approaches. However, can see how it could be confusing for stakeholder unfamiliar with the SEM, as the terms appear so familiar but have opposite signs. Therefore, wish to clear up the potential for confusion by adding a term similar to that in the ISHP, and describing how it differs and relates to the NIV and the ISHP sign convention.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.4.5 Definitions: EBGL Objectives
- TSO position: Compliant with potential useful changes;
- Why considered potential issue: Amendments to terms and conditions under the EBGL need to describe the expected impact on the objectives of the EBGL in their proposal. This is similar to the requirement to account for impact on objectives in modifications to the TSC, but there is not explicit reference to EBGL objectives in the TSC. Therefore, it was uncertain whether or how such a requirement to consider impacts on EBGL objectives should be explicitly accounted for in the TSC;
- Why TSO reached position: It was determined that the TSC already acknowledged the higher priority of “Applicable Laws”, and therefore the objectives of the EBGL should implicitly be considered. However, since the harmonisation of balancing arrangements means the link between the TSC and the EBGL need to be very strong, it was thought that some reference to the EBGL, more likely a general reference to the EBGL and its objectives rather than explicitly incorporating its objectives into the text of the TSC, would be useful.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.6.3 Less Core Settlement Issues: Clarifying the Default Values for Variables When No Data Available
- TSO position: Compliant with potential useful changes;
- Why considered potential issue: In Article 18, there is a requirement for rules to be put in place for how to manage balancing arrangements when the markets have been suspended. In a separate consultation of proposals related to the Emergency and Restoration Network Code, which has been approved, states that the markets will not be suspended for any reason, partially on the basis that the TSC already contains rules on how settlement can continue in the scenarios outlined as possibilities for suspension. However, in this review it was uncertain whether the TSC made it clear enough which default values would apply to the variables used for this Administered Imbalance Settlement if no data is available to calculate them, and therefore whether additional rules need to be added to outline this to comply with the market suspension requirements;
- Why TSO reached position: There is general language used in the TSC to outline that values of 0 would be used where a value needs to be used in a process where the provisions for calculating that variable do not apply, and therefore there is a basis for these default values. However, it was felt that it could be made more clear by explicitly stating the default values to be applied for the main variables used in Administered Imbalance Settlement when no data is available for them, rather than relying on a “catch-all” statement.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.4.4 Definitions: Calculations of Imbalance and Imbalance Adjustment
- TSO position: Compliant with potential useful changes;
- Why considered potential issue: The EBGL has requirements to calculate “imbalance” and “imbalance adjustment” for relevant unit types. Such volumes are not explicitly calculated in the SEM, instead what would be considered their components are included directly in cash flow calculations. It was uncertain whether the fact of not calculating variables explicitly called “imbalance” and “imbalance adjustment” would be an issue;
- Why TSO reached position: The settlement outcomes from the SEM approach are equivalent to those intended by using the “imbalance” and “imbalance adjustment” variables, which is the only use of these variables in the EBGL. The information to calculate such variables is available in reported data, so while there is no need to calculate these variables as they have no use in the SEM; however, to provide more clarity, it was determined that a definition of how the EBGL variable can be calculated from the available SEM variables would be included in the definitions mapping exercise for the Terms and Conditions proposal under Article 18. This would help participants with more experience in other jurisdictions which do explicitly settle based on such variables to be able to calculate comparable values despite the different structure and format of SEM settlement.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.4.6 Definitions: Balance Responsibility
- TSO position: Compliant with potential useful changes;
- Why considered potential issue: The EBGL requires that local terms and conditions have a definition of balance responsibility. The TSC does not have an explicit definition for balance responsibility in its Glossary, but it does have an implicit definition given that every unit is subject to financial settlement against defined charges and payments which practically enact balance responsibility. It was uncertain whether this implicit approach to defining balance responsibility was sufficient;
- Why TSO reached position: It was determined that the arrangements defining how units are financially responsible for their energy imbalances meets the requirement for defining balance responsibility. However, in broader terms different jurisdictions have different approaches to balance responsibility, for example which types of behaviours are incentivised or required. Therefore, it was determined that to have easier comparison of the SEM arrangements with other jurisdiction, an explicit definition of balance responsibility which describes the SEM approach in a similar way to how other jurisdictions are described would be beneficial to increase transparency and understanding for stakeholders without in-depth understanding of the SEM arrangements.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.4.2 Data Requirements: Publishing Offer Prices and Quantities
- TSO position: Compliant;
- Why considered potential issue: The regulation appears to require offer prices and quantities of individual units to be published close to real-time (within 30 minutes after the Imbalance Settlement Period). However, the SEM has continually maintained an approach of only publishing individual COD the next day. There is a right under the EBGL for such data to be withheld for market power concerns. Therefore it was uncertain whether the approach in the SEM of publishing the next day could be considered as not meeting the requirement, or if the data could be considered “withheld” in terms of not being made available close to real-time;
- Why TSO reached position: Following further discussions, it was determined that the original purpose of the next-day publication approach rather than a close-to-real-time approach to publishing this data was for reasons of potential market power concerns. Therefore it is determined that the data is “withheld” in that it is not published within 30 minutes of the period, but it is made available relatively soon after in order to balance concerns around transparency and potential market power.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.4.3 Data Requirements: Anonymised Incremental / Decremental Prices
- TSO position: Compliant;
- Why considered potential issue: The data required to be published by the regulation is for incremental and decremental prices. For other jurisdictions, this data would typically be provided to them in a format where these are just the prices for increments or decrements from an existing market position. The relevant equivalent report in the SEM publishes the composite incremental and decremental price curves from all units, which encompasses the entire output range of those units, not just increments or decrements from the market position. Therefore it is uncertain if the current SEM report meets the requirements;
- Why TSO reached position: The Integrated Scheduling Process Bids used in the SEM are only available in the format used for this data publication report, which encompasses the whole output range. This format is suitable for use in the optimisation of the integrated scheduling process, as allowed for Central Dispatch Systems under the EBGL. Information on the bid quantities and prices which are only increments or decrements from a market position would not be available unless the bids were to be converted to standard products. The cross-zonal balancing platforms which use this information are not expected to be used in the SEM at this time. Therefore, the data is published in the only way possible given the data available.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.3.1 Governance and Changes: Modifications Processes
- TSO position: Inconclusive;
- Why considered potential issue: The EBGL requires that amendments to terms and conditions, which includes methodologies created under the code but also to local terms and conditions, to have at least one month of public consultation. The Trading and Settlement Code (TSC) has a modifications process with associated timelines, but further analysis was needed to assess if this process met the EBGL requirements;
- Why TSO reached position: Looking at the TSC modifications process typical timelines, it could be considered that at least a month's worth of time where the information pertaining to a proposed modification is available in the public domain, and there is a consultation process through the industry panel. However, it is unclear whether this process fully meets requirements for "public consultation". If an additional month long process were to be added to the current modifications process to have an explicit public consultation, then this would impact the timelines for amendments becoming effective and being implemented. Therefore, as the parties likely to be most impacted by potential changes in this process, participants are asked for their opinions on whether the current TSC modifications process sufficiently meets the EBGL requirements for public consultation.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.3.2 Governance and Changes: General Governance of Terms and Conditions Proposal
- TSO position: Inconclusive;
- Why considered potential issue: The approach taken to meet the Article 18 requirements of proposing/having in place terms and conditions for various topics was to map the EBGL requirements to where they are contained in the already-existing local terms and conditions documents, in particular the Trading and Settlement Code but also Grid Codes, System Services rules, etc. It is uncertain as to what the best approach for the future management of this mapping exercise as part of that proposal is, e.g. when changes to terms and conditions require that additional sections be added to the mapping, or if EBGL amendments over time create new requirements for terms and conditions;
- Why TSO reached position: Two options seem to have relatively equal merits, participants are asked for their opinion on which they prefer. The first option is to have the mapping in its own separate document to be managed outside of the existing governance, meaning it would require a process to be designed for how changes can be made to the document, timelines, etc. (this may be preferable as it references multiple local rules documents, not just one). The second option is to incorporate the mapping as a section of an existing rules document, with the main idea being as an appendix to the Trading and Settlement Code, which would mean changes to the mapping would follow the existing processes and timelines for amendments to the Trading and Settlement Code (this may be preferable as it avails of existing and well understood governance and change control process, and proximity to the main rules affected).

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.5.1 Core Settlement Issues: Pumped Storage Units
- TSO position: Change required;
- Why considered potential issue: There are requirements throughout the EBGL and the Clean Energy Package for all participants in markets to be balance responsible. On reviewing the settlement arrangements in the SEM, the cash flow calculations were found to enact balance responsibility through financial responsibility for imbalances, with a small number of exceptions. One of these was Pumped Storage units, which had a different imbalance cash flow calculation when the unit is pumping or transitioning to/from pump. Further analysis was needed to determine if this calculation met the requirements for balance responsibility;
- Why TSO reached position: On further analysis, it appeared that not all imbalances were accounted for in this different calculation for these scenarios and units. Any purely trading imbalances (i.e. differences between where a unit traded to, and where it notified the TSO through their PN as their market position) would not be calculated in these scenarios, as the only volume considered for imbalance price cash flow are TSO balancing actions. While it was understandably implemented to maintain the status quo of the original SEM approach prior to the I-SEM project (due to lack of control over exact MW consumption level when pumping), through a different settlement structure, this would appear to not meet the basic requirement for balance responsibility, and so should change to align with other unit types. It may be possible to just change the Imbalance Component, the primary element settling at the imbalance price, while maintaining a different settlement approach for such units for the Uninstructed Imbalance Charges which act as an incentive to maintain output at dispatched MW levels, which is not enacting balance responsibility. This different settlement approach also applies to battery storage units in charge mode, and so would mean a change is also required for batteries – more thought may be needed on whether the Uninstructed Imbalance Charge exemption should continue to apply to batteries or not.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.5.1 Core Settlement Issues: Pumped Storage Units
- Example showing difference in settlement outcome.
- Scenario 1 (no difference): unit has no trade imbalance because their PN and traded levels are equal, unit dispatched to pump from PN position:
 - Ex-ante Trade Level 0MW, PN Level 0MW, $QEX_{uy} = 0MWh$, Dispatch Level -70MW, $QDu_y = -35MWh$, Sum of all $QABu_{oiy} = -35MWh$, $QM_{uy} = -35MWh$, $PIMB_y = 20€/MWh$, say $PBOu_{oiy} = 30€/MWh$ meaning no CDISCOUNT applies;
 - Current equation F.5.3.3:
 - In pumping mode,

$$CIMB_{uy} = PIMB_y \times (\sum_o \sum_i (QAOLF_{uoiy} - \text{Max}(QAObIAS_{uoiy}, QAOUNDEL_{uoiy})) + \sum_o \sum_i (QABLF_{uoiy} - \text{Min}(QABBIAS_{uoiy}, QABUNDEL_{uoiy})))$$
 - $CIMBuy = 20 \times (-35) = -€700$.
 - Proposed future equation F.5.3.1:
 - In all modes, $CIMB_{uy} = PIMB_y \times (QMLF_{uy} - QEX_{uy})$
 - $CIMBuy = 20 \times (-35 - 0) = 20 \times (-35) = -€700$.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.5.1 Core Settlement Issues: Pumped Storage Units
- Example showing difference in settlement outcome.
- Scenario 2 (difference): unit has an imbalance arising from differences between their traded level and their PN, unit dispatched to pump from PN position:
 - **Ex-ante Trade Level 50MW, PN Level 0MW**, $QEX_{uy} = 25\text{MWh}$, Dispatch Level -70MW, $QD_{uy} = -35\text{MWh}$, Sum of all $QAB_{uoiy} = -35\text{MWh}$, $QM_{uy} = -35\text{MWh}$, $PIMB_{\gamma} = 20\text{€/MWh}$, say $PBO_{uoiy} = 30\text{€/MWh}$ meaning no CDISCOUNT applies;
 - Current equation F.5.3.3:
 - In pumping mode,

$$CIMB_{uy} = PIMB_{\gamma} \times (\sum_o \sum_i (QAOLF_{uoiy} - \text{Max}(QAObIAS_{uoiy}, QAOUNDEL_{uoiy})) + \sum_o \sum_i (QABLF_{uoiy} - \text{Min}(QABBIAS_{uoiy}, QABUNDEL_{uoiy})))$$
 - $CIMB_{uy} = 20 \times (-35) = -\text{€}700$.
 - Proposed future equation F.5.3.1:
 - In all modes, $CIMB_{uy} = PIMB_{\gamma} \times (QMLF_{uy} - QEX_{uy})$
 - $CIMB_{uy} = 20 \times (-35 - 25) = 20 \times (-60) = -\text{€}1200$.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.5.1 Core Settlement Issues: Pumped Storage Units
- Example showing difference in settlement outcome.
- Scenario 3 (for units who cannot input negative PN): unit has traded to a charging/pumping level, they cannot input a negative PN so they leave this at zero, unit dispatched to charge/pump to the unit's traded ex-ante position. This means they have a biased quantity – difference between PN and dispatch calculated as QAB, but in Biased quantity calculations it is found to not be a volume which represents a decrement from their market position, so a biased quantity with volume equal to the whole QAB is calculated. This means the volumes are consistent with what the settlement outcome would be when the negative PN issue is resolved:
 - Ex-ante Trade Level -70MW, PN Level 0MW, $QEX_{uy} = -35\text{MWh}$, Dispatch Level -70MW, $QD_{uy} = -35\text{MWh}$, Sum of all $QAB_{uoiy} = -35\text{MWh}$, $QABBIAS_{uoiy} = -35\text{MWh}$, $QM_{uy} = -35\text{MWh}$, $PIMB_{\gamma} = 20\text{€/MWh}$, say $PBO_{uoiy} = 30\text{€/MWh}$ meaning no CDISCOUNT applies;
 - Current equation F.5.3.3:
 - In pumping mode,

$$CIMB_{uy} = PIMB_{\gamma} \times (\sum_o \sum_i (QAOLF_{uoiy} - \text{Max}(QAObIAS_{uoiy}, QAOUNDEL_{uoiy})) + \sum_o \sum_i (QABLF_{uoiy} - \text{Min}(QABBIAS_{uoiy}, QABUNDEL_{uoiy})))$$
 - $CIMB_{uy} = 20 \times (-35 - (-35)) = 20 \times 0 = \text{€}0$.
 - Proposed future equation F.5.3.1:
 - In all modes, $CIMB_{uy} = PIMB_{\gamma} \times (QMLF_{uy} - QEX_{uy})$
 - $CIMB_{uy} = 20 \times (-35 - (-35)) = 20 \times 0 = -\text{€}0$.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.5.1 Core Settlement Issues: Pumped Storage Units
- Example showing difference in settlement outcome.
- Scenario 4 (for units who cannot input negative PN): unit has traded to a charging/pumping level, they cannot input a negative PN so they leave this at zero, unit dispatched to charge/pump to a lower level than the unit's traded ex-ante position. This means they have a biased quantity between the PN and ex-ante position – difference between PN and dispatch calculated as QAB, but in Biased quantity calculations it is found that some of it is not a volume which represents a decrement from their market position (the volume between PN of 0MW and ex-ante trade of 50MW), so a biased quantity with volume smaller than the whole QAB is calculated. This means the volumes are consistent with what the settlement outcome would be when the negative PN issue is resolved:
 - Ex-ante Trade Level -50MW, PN Level 0MW, $QEX_{uy} = -25\text{MWh}$, Dispatch Level -70MW, $QD_{uy} = -35\text{MWh}$, Sum of all $QAB_{uoiy} = -35\text{MWh}$, $QABBIAS_{uoiy} = -25\text{MWh}$, $QM_{uy} = -35\text{MWh}$, $PIMB_{\gamma} = 20\text{€/MWh}$, say $PBO_{uoiy} = 30\text{€/MWh}$ meaning no CDISCOUNT applies;
 - Current equation F.5.3.3:
 - In pumping mode,

$$CIMB_{uy} = PIMB_{\gamma} \times (\sum_o \sum_i (QAOLF_{uoiy} - \text{Max}(QAObIAS_{uoiy}, QAOUNDEL_{uoiy})) + \sum_o \sum_i (QABLF_{uoiy} - \text{Min}(QABBIAS_{uoiy}, QABUNDEL_{uoiy})))$$
 - $CIMB_{uy} = 20 \times (-35 - (-25)) = 20 \times (-10) = -\text{€}200$.
 - Proposed future equation F.5.3.1:
 - In all modes, $CIMB_{uy} = PIMB_{\gamma} \times (QMLF_{uy} - QEX_{uy})$
 - $CIMB_{uy} = 20 \times (-35 - (-25)) = 20 \times (-10) = -\text{€}200$.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.5.1 Core Settlement Issues: Pumped Storage Units
- Example showing difference in settlement outcome.
- Scenario 5 (for units who cannot input negative PN): unit has traded to a charging/pumping level, they cannot input a negative PN so they leave this at zero, unit dispatched to zero and they meter to zero. This means that because the PN is equal to zero, a QAO cannot be calculated for this unit. This is due to the system issue which applies to battery units at the moment where they cannot input negative PNs, separate to considerations for EBGL. The current inability to settle these balancing volumes exist in all the scenarios under this EBGL question, and so the settlement outcome would not be consistent with when the negative PN issue is resolved in instances where the price of the inc is higher than the imbalance price. There are two subscenarios around this in terms of how it interacts with the question considered in this consultation:
 - Ex-ante Trade Level -50MW, PN Level 0MW, QEX_{uy} = -25MWh, Dispatch Level 0MW, QD_{uy} = 0MWh, Sum of all QAO_{uoiy} = 0MWh, QAOBIAS_{uoiy} = 0MWh, QM_{uy} = 0MWh, PIMB_y = 20€/MWh, say PBO_{uoiy} = 30€/MWh for the inc so the unit should be eligible for a CPREMIUM for QAO quantities;
 - Subscenario 5a: If the unit was dispatched to zero for the entire period, the unit would not be seen as in pumping or charging mode (F.2.1.3), and therefore this question would have no effect on the settlement outcome for the unit, the normal settlement equation will apply to it anyway, F.5.3.1, because a QAO could not be calculated for the unit they would not receive a CPREMIUM. If the unit's inc price was lower than the imbalance price, then this settlement outcome is consistent with when the negative PN issue is resolved, if the inc price was higher than the imbalance price, then this settlement outcome is not consistent with when the negative PN issue is resolved:
 - $CIMB_{uy} = PIMB_y \times (QMLF_{uy} - QEX_{uy})$
 - $CIMB_{uy} = 20 \times (0 - (-25)) = 20 \times (25) = \text{€}500.$
 - Subscenario 5b: say the unit was very briefly dispatched, for 1 minute, into pumping/charging range so that this is seen as a transition period, but the level to which it was dispatched is too small to impact the values provided for the scenario. Then the change from the current settlement approach to the proposed approach would be an improvement, where the current settlement approach only settles TSO balancing volumes (as outlined earlier, these cannot be calculated due to the negative PN issue), meaning the unit would have no volumes settled, while the proposed approach at least results in the volume being settled at the imbalance price, in both instances because a QAO could not be calculated for the unit they would not receive a CPREMIUM. If the unit's inc price was lower than the imbalance price, then this settlement outcome is consistent with when the negative PN issue is resolved, if the inc price was higher than the imbalance price, then this settlement outcome is not consistent with when the negative PN issue is resolved:
 - Current equation F.5.3.3:
 - In pumping mode,

$$CIMB_{uy} = PIMB_y \times (\sum_o \sum_i (QAOLF_{uoiy} - \text{Max}(QAOBIAS_{uoiy}, QAOUNDEL_{uoiy})) + \sum_o \sum_i (QABLF_{uoiy} - \text{Min}(QABBIAS_{uoiy}, QABUNDEL_{uoiy})))$$
 - $CIMB_{uy} = 20 \times (0) = \text{€}0.$
 - Proposed future equation F.5.3.1:
 - In all modes, $CIMB_{uy} = PIMB_y \times (QMLF_{uy} - QEX_{uy})$
 - $CIMB_{uy} = 20 \times (0 - (-25)) = 20 \times (25) = \text{€}500.$

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.5.2 Core Settlement Issues: Demand Side Units
- TSO position: Change required;
- Why considered potential issue: There are requirements throughout the EBGL and the Clean Energy Package for all participants in markets to be balance responsible. On reviewing the settlement arrangements in the SEM, the cash flow calculations were found to enact balance responsibility through financial responsibility for imbalances, with a small number of exceptions. One of these was for DSUs, which cannot take title to the energy, and therefore cannot be settled for some elements of imbalances, in order to not double-count the energy and imbalances which appear through Supplier Unit meters for the relevant demand sites. This is done through the Trading Site Supplier Unit related to the DSU having a metered quantity of equal magnitude but opposite sign in order to remove settlement at the imbalance price for this energy. Further analysis was needed to determine if this calculation met the requirements for balance responsibility;
- Why TSO reached position: On further analysis, it appeared that the imbalances were being settled somewhere in the market (being on the Supplier Units), but that it could be considered that the DSU should be the correct unit to have balance responsibility placed on it and therefore should have the imbalances settled on it. There are separate requirements for enduring DSU energy settlement which would give rise to this, so this is not seen as a separate piece of work required – once the planned enduring arrangements are in place, this EBGL requirement will be completely satisfied.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.3.3 Gate Closure Time: Integrated Scheduling Process Gate Closure Time
- TSO position: Change required;
- Why considered potential issue: The EBGL requirements for Gate Closure Times for “Integrated Scheduling Process Bids” (i.e. the bid data used in Central Dispatch Systems) is to be no greater than 8 hours before real-time. This is fine for Commercial Offer Data (COD), and if Physical Notifications (PNs) are considered part of the bid data, it would be fine for that too, since the gate closure for these is 1 hour prior to each Imbalance Settlement Period. However, it is uncertain whether Technical Offer Data (TOD) should be considered part of the bid data, and therefore whether its day-ahead Gate Closure Time (locking in the TOD for a whole day at 13:30 the day before) would be ok or if it would mean the 8 hour requirement is not met;
- Why TSO reached position: While not defined in the EBGL, TOD does seem to be a part of the “Integrated Scheduling Process Bids” for the SEM alongside COD and PNs, as TOD such as ramp rates is important for determining the volumes and therefore which of the prices in COD are available in a particular period close to real-time. Therefore, preventing changes to TOD for a whole day after 13:30 day-ahead would appear to mean the 8-hour Gate Closure Time requirement would not be met. It has not yet been analysed how a close-to-real-time gate closure time could be accommodated. Previous interactions with system vendors prior to I-SEM go-live on similar functionality concluded that it could not be implemented at that time due to how the systems were structured.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.1.2 Less Core Pricing and Settlement Issues: Market Backup Price
- TSO position: Change required;
- Why considered potential issue: The EBGL and Imbalance Settlement Harmonisation Proposal methodology (ISHP) requires that the “Value of Avoided Activation” (VoAA) be used as the imbalance price when there has been no activation of balancing energy in either direction. For the SEM, this can be interpreted through the Net Imbalance Volume (NIV) being equal to zero. ISHP requirements are that VoAA be calculated based on available balancing market bid prices. The Market Backup Price calculated for the SEM is based on cleared prices from the ex-ante markets (day-ahead and intraday), including a process of multiple “backups to the backup” which always ensures prices are available even when the main backup price cannot be calculated;
- Why TSO reached position: Seems to be a clear difference where the SEM Market Backup Price does not meet the regulation requirement for the $NIV = 0$ case. Uncertainty still exists about exactly how the VoAA should be calculated, and to what extent a price based on VoAA should apply to backup situations other than $NIV = 0$, e.g. should it become the new default backup price including in situations like if the main pricing system is on an outage? What if VoAA cannot be calculated (e.g. data problem or the system which calculates VoAA is on outage), should there still be “backups to the backup” based on ex-ante market prices?

SEM Compliance with Guideline on Electricity Balancing (EBGL)

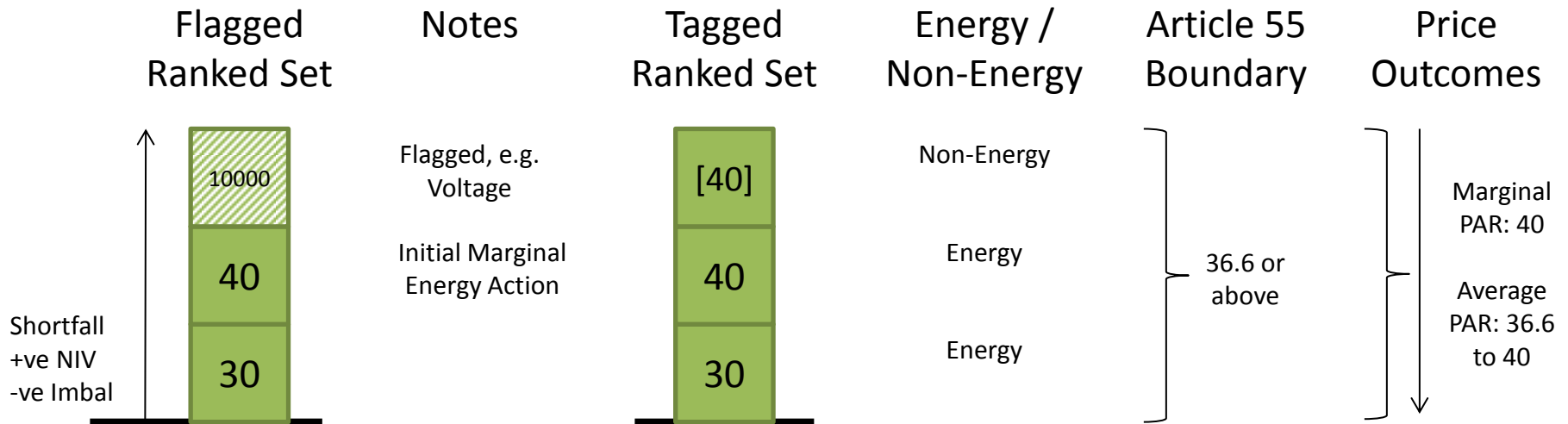
- 2.2.1 Core Pricing Issues: PMEA and PRBO Functionality
- TSO position: Compliant;
- Why considered potential issue: Within the EBGL, ISHP and Pricing Proposals, a generally simple approach of calculating the prices based on the balancing energy actions taken is outlined, with some flexibility so long as principles, and requirements around marginality and max/min prices, are met. Within these requirements, there does not seem to be anything similar to the functionality which calculates a marginal price, then replaces the price of all actions which are non-marginal against it with this marginal price, before potentially including those actions in setting the final price (Marginal Energy Actions Price, PMEA, and Replacement Bid Offer Price, PRBO). However, the central-dispatch SEM has differences and additional complexity compared with other jurisdictions in determining the actions which are deemed to be energy balancing and therefore eligible to set the price, requiring the ex-post “flagging and tagging” process (which includes PMEA and PRBO). Therefore, further analysis was required to assess whether the regulation principles and requirements are being met within all of these complications;
- Why TSO reached position: After outlining a description of what the TSO understands to be the actions which are considered energy balancing in general under the “flagging and tagging” process, it was determined that the actions whose prices are replaced are not primarily taken for energy balancing purposes, and therefore their own bid prices do not need to be used in setting the price. Replacing their prices with the marginal price for energy when their volumes may be included in the NIV ensures that the final price is closer to marginal, meeting the EBGL principles and Article 55 requirements.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.2.1 Core Pricing Issues: PMEAs and PRBO Functionality
- Description of what is considered energy or non-energy in imbalance pricing:
- All actions in the ranked set which are taken according to a normal market-based common merit order approach, which are in the direction of the NIV, which are not NIV Tagged, and which are in-merit against the marginal energy action price, are considered energy. All other actions are considered non-energy.

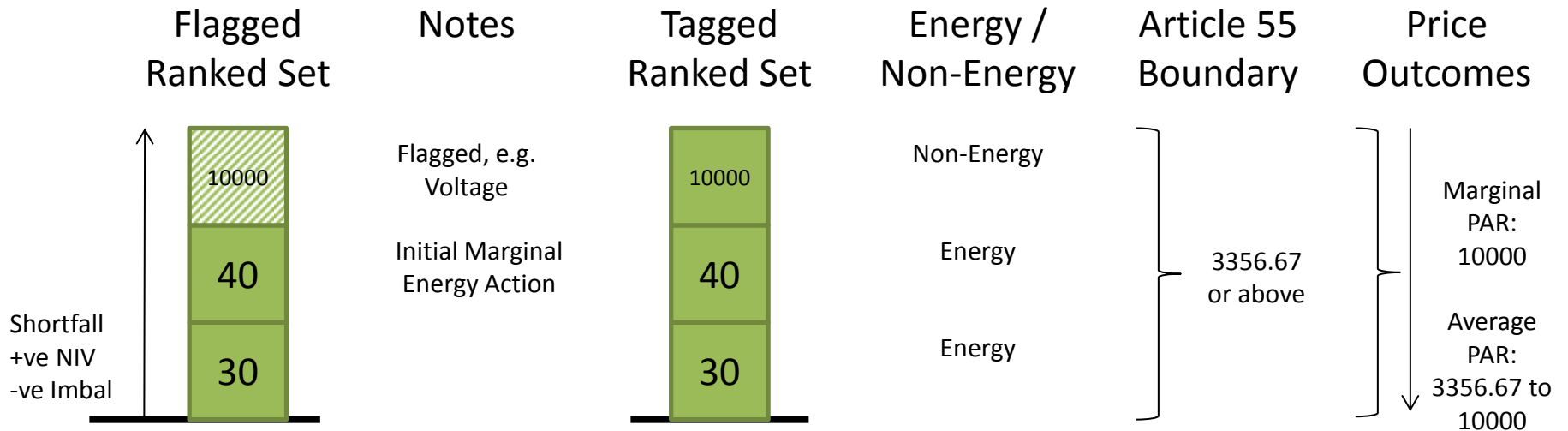
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (With PMEA/PRBO) Only actions in one direction, out of merit action meets energy need but primarily driven by non-energy, system shortfall



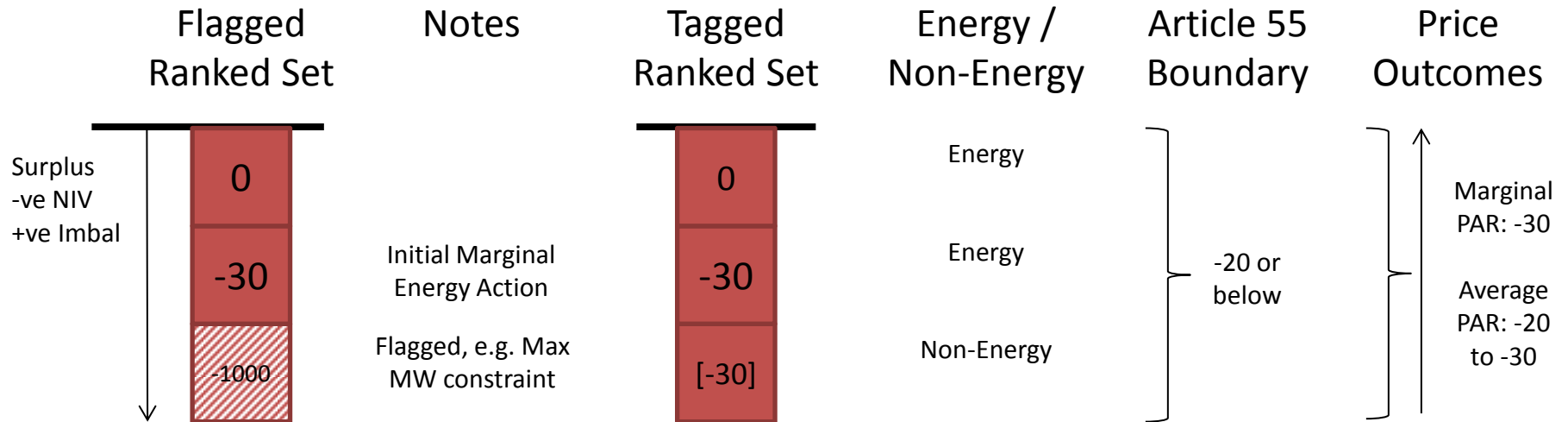
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (Without PME/PRBO) Only actions in one direction, out of merit action meets energy need but primarily driven by non-energy, system shortfall



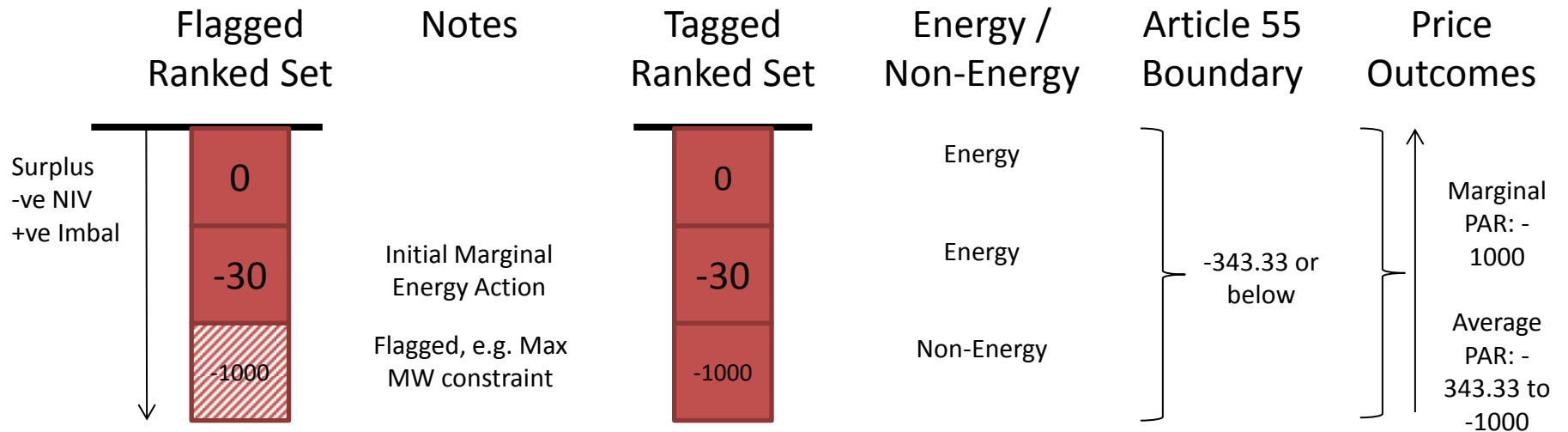
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (With PMEA/PRBO) Only actions in one direction, out of merit action meets energy need but primarily driven by non-energy, system surplus



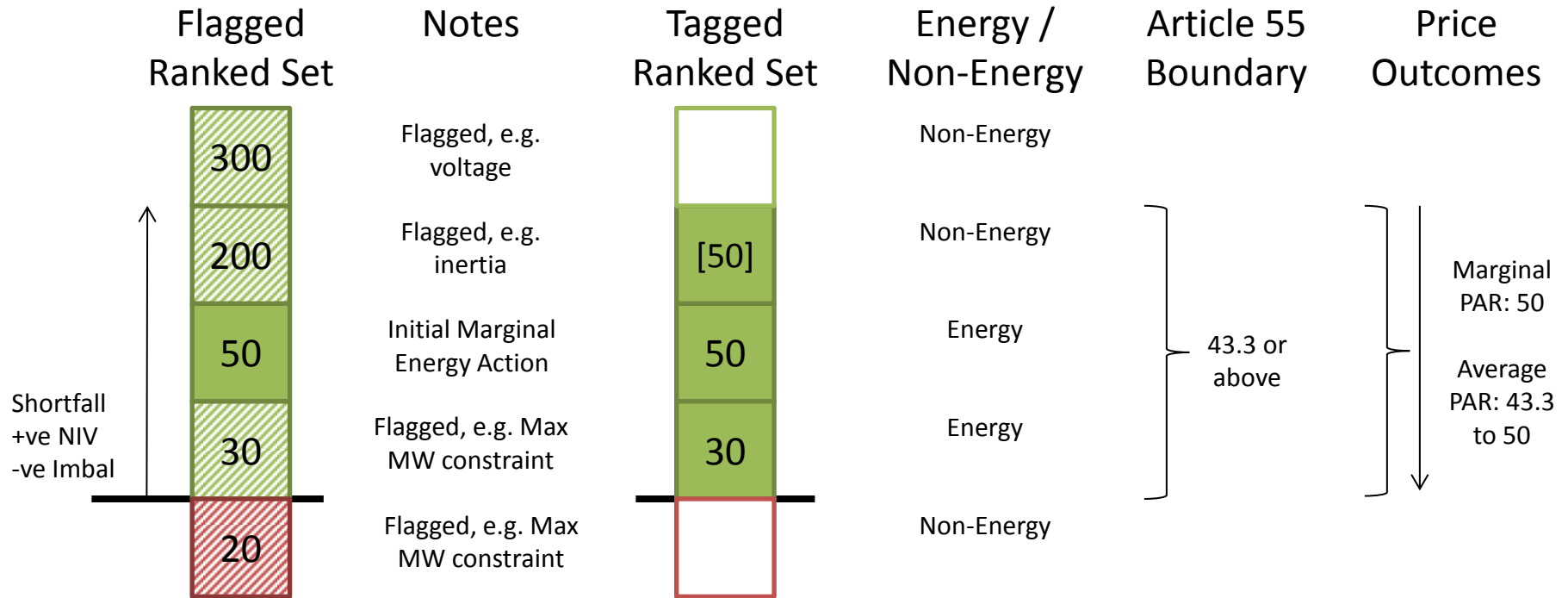
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (Without PME/PRBO) Only actions in one direction, out of merit action meets energy need but primarily driven by non-energy, system surplus



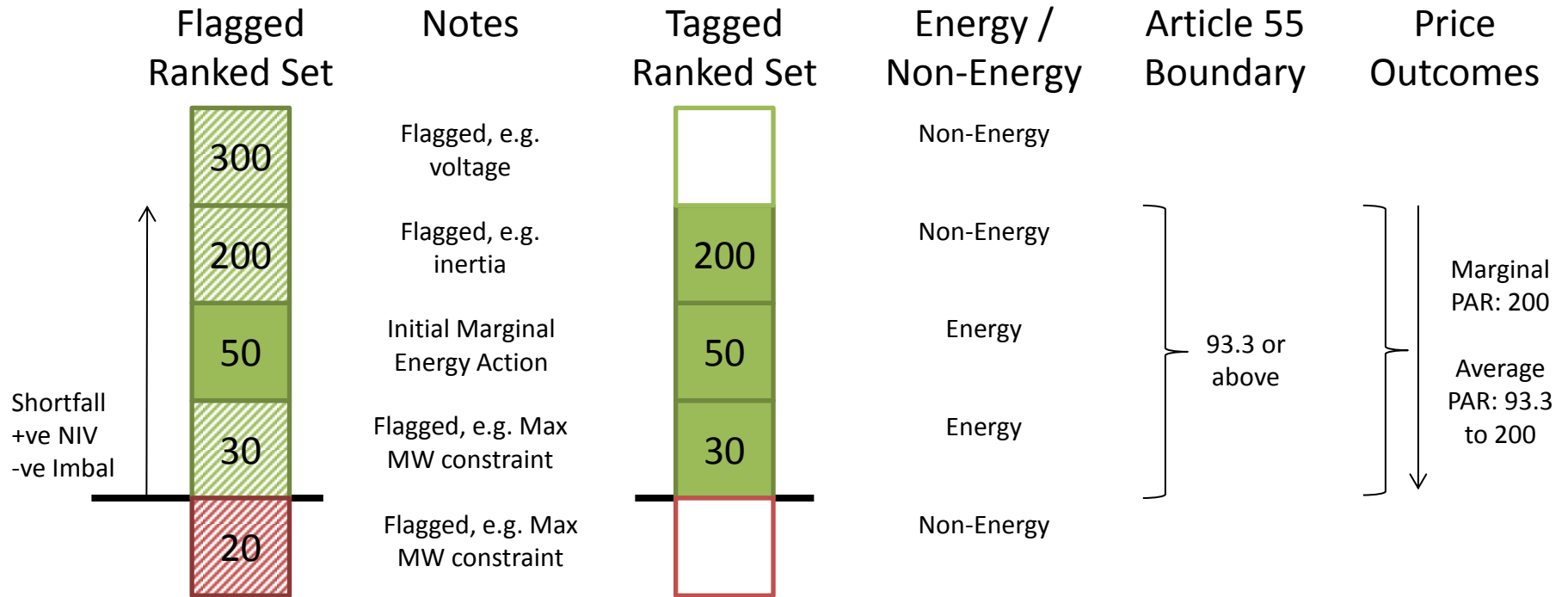
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (With PMEA/PRBO) One unflagged action in direction to meet imbalance, untag in-merit and out-of-merit actions to match imbalance, system shortfall



SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (Without PME/PRBO) One unflagged action in direction to meet imbalance, untag in-merit and out-of-merit actions to match imbalance, system shortfall



SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.6.1 Core Settlement Issues: Settling Units at “Better” of Imbalance Settlement Price and Bid Offer Price
- TSO position: Compliant;
- Why considered potential issue: The primary settlement requirement in the EBGL is for imbalances to be settled at the imbalance price, and for balancing energy actions to be settled in a “pay-as-clear” manner, there does not appear to be a requirement for how non-energy actions need to be settled. In the SEM, imbalances are settled at the imbalance price, but there is a general “settle on better of imbalance settlement price or bid offer price” approach across energy and non-energy actions. Therefore, it is not immediately clear that energy actions will be paid-as-clear rather than paid-as-bid, and further analysis was needed to determine if the pay-as-clear requirement would be met for balancing energy;
- Why TSO reached position: After outlining a definition of what the TSO understands to be the actions which are considered energy balancing in general under the “flagging and tagging” process, it was determined that the actions considered to be primarily taken for balancing energy purposes would be pay-as-clear because they would be in-merit to be paid the imbalance settlement price under the SEM approach with a marginal imbalance settlement price, which is also the balancing energy price. Since there are no requirements on how settlement should work for actions which are primarily taken for non-energy balancing purposes, it does not matter if these are paid-as-clear or paid-as-bid out-of-merit. Therefore, the approach in the SEM seems to implement what is required in the EBGL, just through a different structure.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

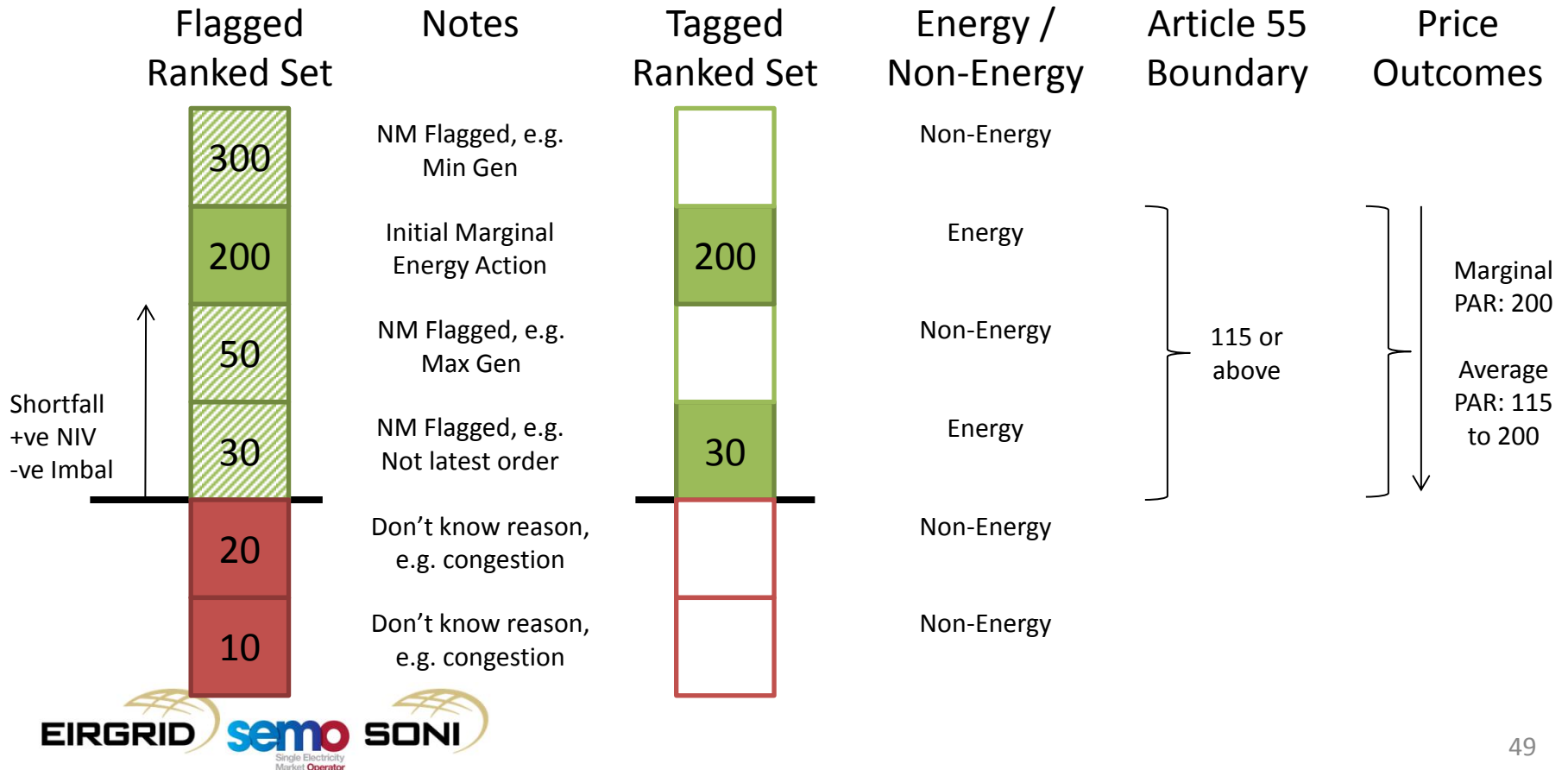
- 2.2.3 Less Core Pricing Issues: Congestion and Price Setting
- TSO position: Compliant;
- Why considered potential issue: The EBGL specifically calls out that at least actions taken to manage internal congestion should not set the marginal balancing energy price. In the SEM, the network model cannot be considered in determining whether an action was taken due to congestion on any particular transmission network element, and the creation of System Operator Flags for location-specific Transmission Constraint Groups was removed following Mod_09_19, for reasons justified through that process (e.g. removing distortions from price signals being set by units in one area which units in another area could not correctly react to). The general Flagging and Tagging approach prevents actions considered non-energy from setting the price, but without explicit consideration of network it was not immediately clear if this EBGL requirement would be met;
- Why TSO reached position: The Pricing Proposal and Implementation Framework documents for the balancing platforms did not prescribe any particular approach for how to prevent actions taken for internal congestion from setting the price. The Flagging and Tagging methodology considers the nuance where an action taken on a unit behind a constraint may have been taken anyway for energy purposes if in-merit, allowing it to potentially set the price, or if it is out-of-merit and therefore primarily taken due to the congestion then it prevents it from setting the price. NIV Tagging can be considered the method through which this EBGL requirement is met, and this is considered sufficient given lack of other prescribed approach.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.1.1 Core Pricing Issues: Non Marginal Flagging Functionality
- TSO position: Inconclusive;
- Why considered potential issue: EBGL requires marginal pricing (in particular for balancing energy). In the pricing methodology, the requirements for how energy prices are to be set is based simply on the maximum or minimum (depending on direction of imbalance) priced energy balancing action in the period. In the SEM, a similar feature of max/min price selection is used, but additional requirements based on typical definitions of “marginal” which prevent marginal prices being set by energy balancing actions which cannot be the “next” action used (e.g. against unit constraints of max or minimum stable generation levels, ramping limits, or not the order/price band where the unit has been dispatched to). This is done through Non-Marginal Flagging. Seems unclear whether the use of Non-Marginal Flagging meets expectations of marginal pricing from the regulation;
- Why TSO reached position: There doesn't seem to be a definitive answer – “marginal” is not defined in the European documents, the potential mismatch between the SEM and EBGL is being inferred from methodologies which could just be different due to practical differences between the markets rather than fundamental. Therefore, participants are asked for their views on the fundamentals, and whether the more simplified approach of max/min energy action price (requiring removal of Non-Marginal Flagging), or the price being based on the next action which theoretically would meet the next infinitesimal imbalance in either direction (requiring retention of Non-Marginal Flagging) is a better reflection of marginal pricing.

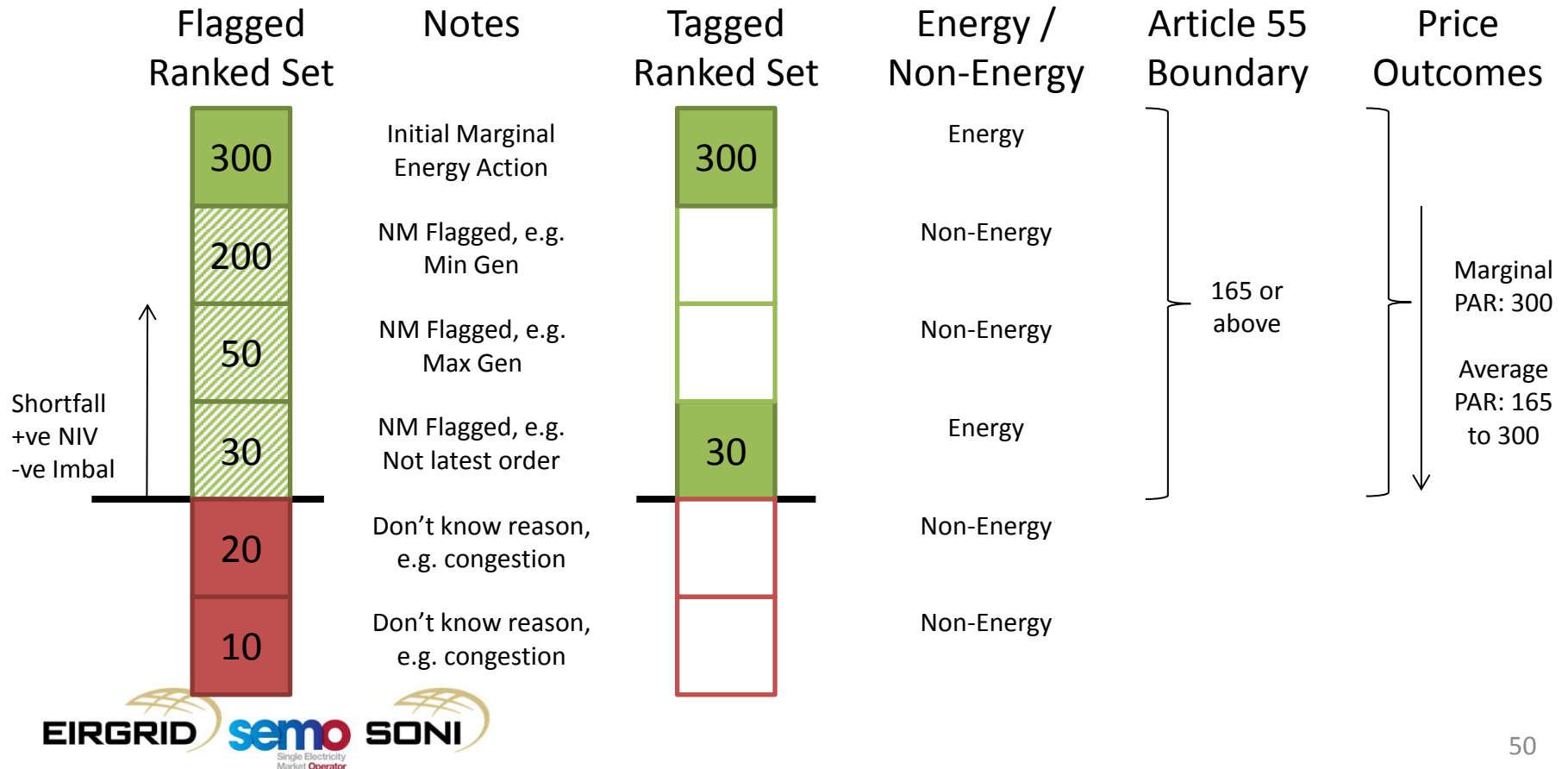
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (With FNM) One unflagged action in direction to meet imbalance, untag in-merit actions to match imbalance, system shortfall



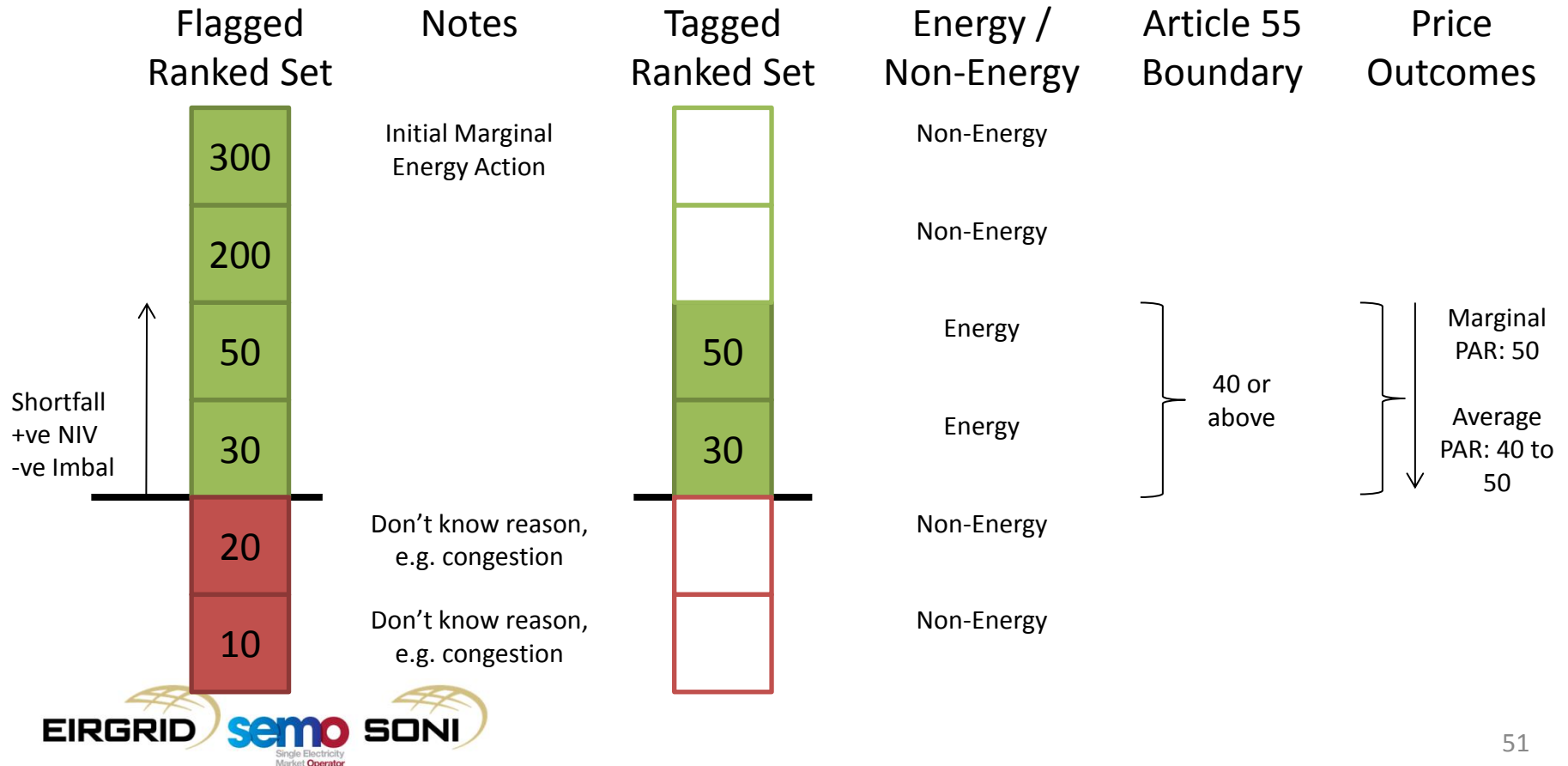
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (With FNM) One unflagged action in direction to meet imbalance, untag in-merit actions to match imbalance, system shortfall



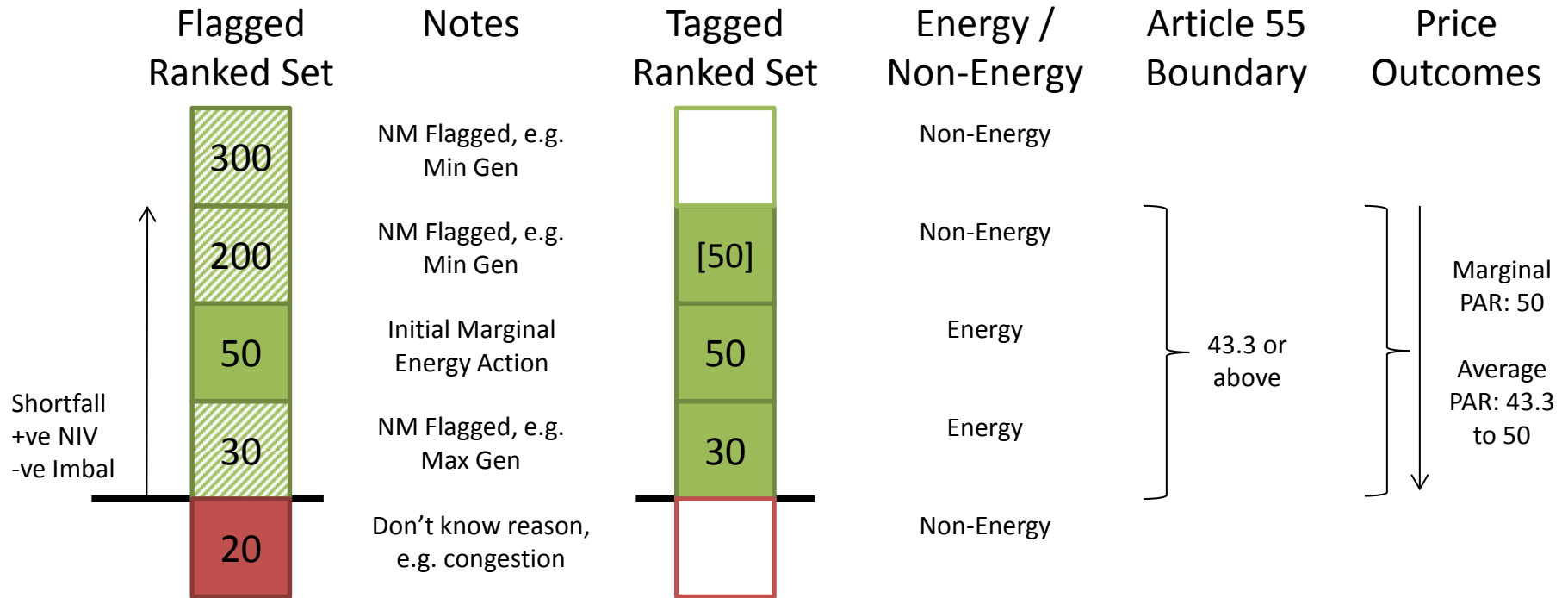
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (Without FNM) Tag additional actions, no actions already flagged, rely on tagging only, system shortfall



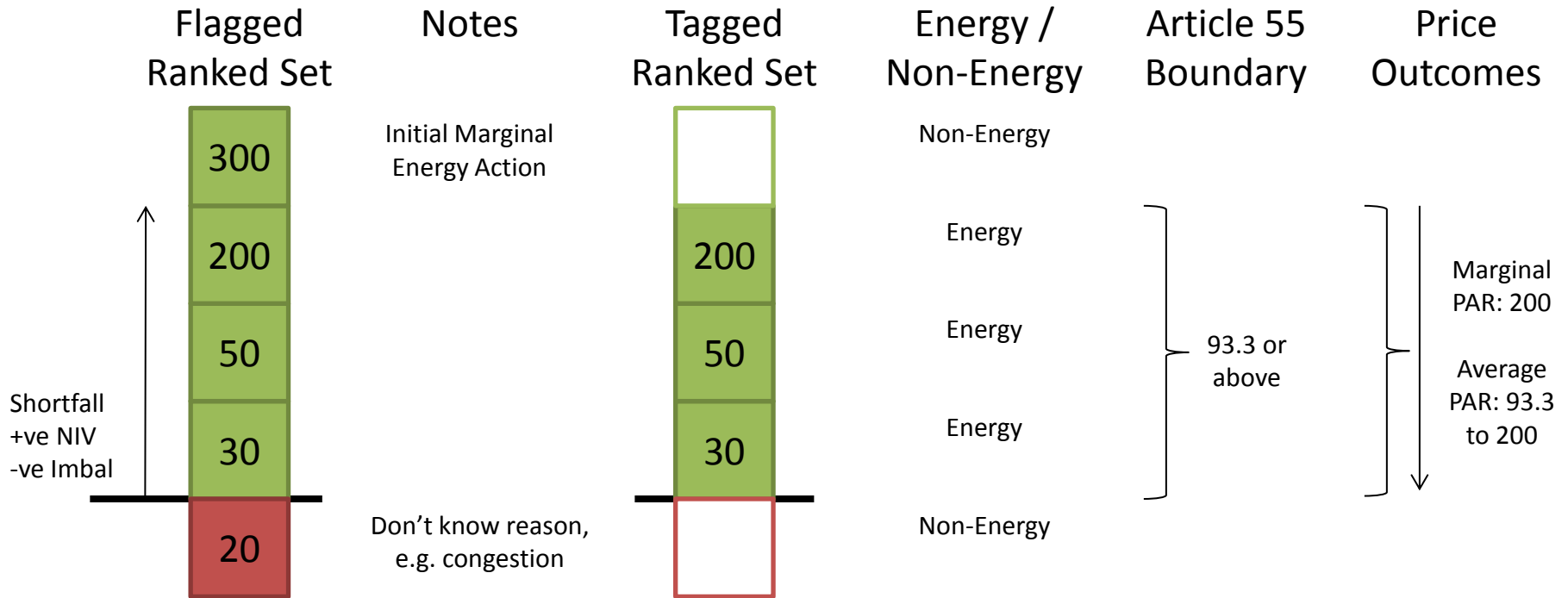
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (With FNM) One unflagged action in direction to meet imbalance, untag in-merit and out-of-merit actions to match imbalance, system shortfall



SEM Compliance with Guideline on Electricity Balancing (EBGL)

- E.g. (Without FNM) One unflagged action in direction to meet imbalance, untag in-merit and out-of-merit actions to match imbalance, system shortfall

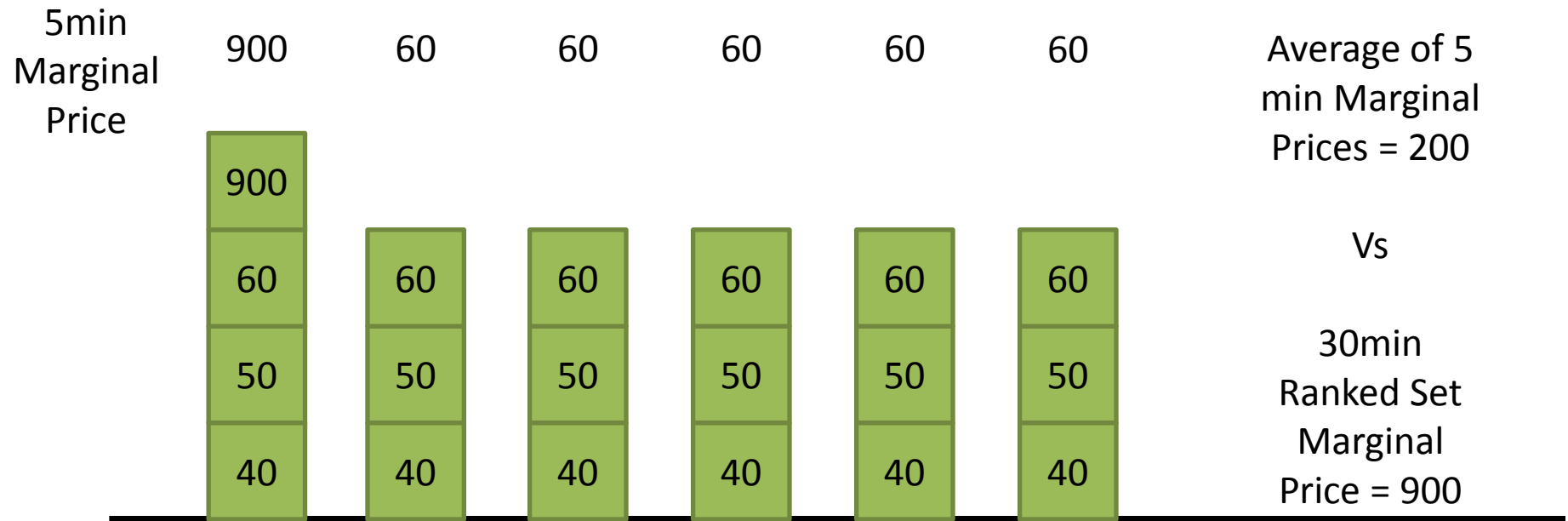


SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.2.2 Core Pricing Issues: 5 Minute versus 30 Minute Periods
- TSO position: Compliant;
- Why considered potential issue: The EBGL and methodologies only mention imbalance prices being set for each “imbalance settlement period”, and balancing energy prices for “market time units”. The approach to calculation, and bounds which need to be maintained (e.g. Article 55) are described at this period granularity. Therefore, it is not clear if the approach which calculates prices on a 5 minute period basis (in a way which meets the approach to calculation and bounds required by the EBGL), which are then averaged over the whole half hour, this concept is neither explicitly allowed or prevented in the EBGL.
- Why TSO reached position: Believe the current approach best meets the combination of the principles for pricing, settlement, and the requirements such as Article 55. Allows the imbalance situation in each 5 minute period to influence the final price but not whole half hour price dominated by a single short signal: reflecting the imbalance situation, reflecting real-time value of energy, better than calculating a price directly at the half hour level. Requirements like Article 55 are met at the level where the ranked set calculations are carried out (on the 5 minute periods), the core basis of calculations for EBGL are taken into account. Difficult to compare with other non-central dispatch jurisdictions, they employ other methods to manage issues such as short actions impacting the entire period’s price signal, e.g. CADL flag in GB.

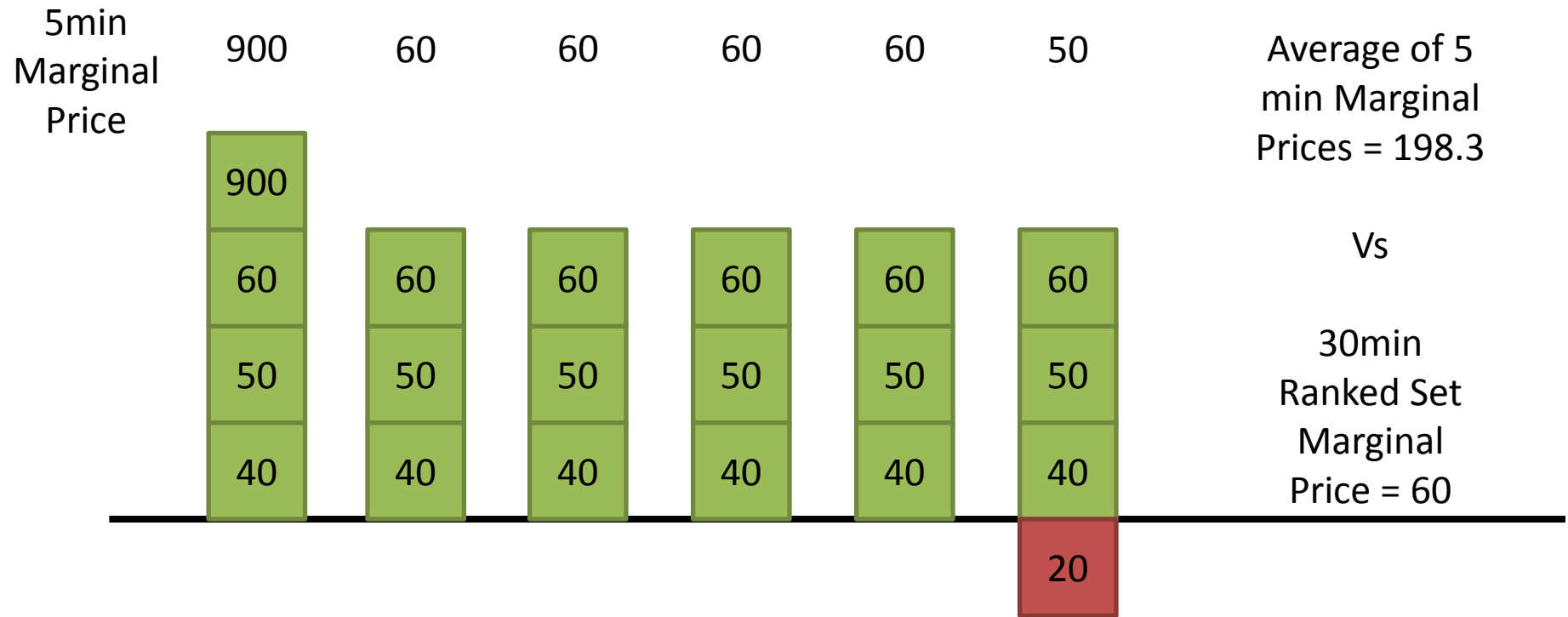
SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.2.2 Core Pricing Issues: 5 Minute versus 30 Minute Periods
- Example



SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.2.2 Core Pricing Issues: 5 Minute versus 30 Minute Periods
- Example



SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.2.4 Less Core Pricing Issues: Pricing Parameters
- TSO position: Compliant;
- Why considered potential issue: Imbalance Settlement Price is also used as the Balancing Energy Price. EBGL requires balancing energy to be settled pay-as-clear, and for the price to be a marginal price. Therefore it was not clear whether the approach in the SEM with Price Average Reference Quantity (QPAR) where the price could be set over an average of the most marginal actions would always ensure pay-as-clear for balancing energy. Also uncertain if the De Minimis Acceptance Threshold (DMAT) is in-keeping with the requirements to generally use the balancing energy actions taken to set the imbalance and balancing energy prices;
- Why TSO reached position: Since these are parameters, and this is relating to whether the arrangements as designed are compliant, then so long as it is possible to meet requirements at some value for these parameters then should be considered compliant. For some larger values of QPAR, for some periods energy actions could be settled in a way to at least recover their costs as stated in their bids, where settling at the imbalance price would not allow this. This does not result in units which are in merit and used for energy to be paid-as-bid at a less beneficial price than the cleared price, which would be the primary concern (some jurisdictions would have done this for balancing energy settlement prior to harmonisation). The European platforms have different approaches which prevent small volumes from being able to set these prices without being explicit that it is preventing such a thing, therefore concept appears to be ok but needs to be explicitly done in the SEM due to the smaller volumes which would arise here that would not appear in those other arrangements.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- 2.1.3 Less Core Pricing and Settlement Issues: Administered Scarcity Price
- TSO position: Inconclusive;
- Why considered potential issue: EBGL Article 55 requires that the imbalance price be not greater than the weighted average of the prices of the decremental energy actions when the system is “long”. The ISHP clarified that this requirement applied to the price after “additional components”, which in the case of the SEM would include the Administered Scarcity Price (ASP). When triggered (by metrics which are related to system capacity scarcity), the ASP would automatically set the price floor to a high level, based on the Reserve Scarcity Price curve or Full Administered Scarcity Price. Based on the current and likely future values for the ASP parameters which feed into these prices, this would very likely set the price to be higher than the weighted average of decremental actions taken in a period. While less likely to happen, it is theoretically possible for the ASP to be triggered in periods where the system is “long”, and therefore be very likely to cause the price to be higher than the maximum allowed under EBGL Article 55;
- Why TSO reached position: Seems something needs to be done on potential to not meet requirement in Article 55, but it is uncertain exactly what. The pricing signal provided by the ASP is a key component of the capacity market design, the importance of scarcity pricing in the design underscored by published European Commission opinion, and therefore thought needs to be given to whether alternative approaches to provide this signal to capacity providers need to be developed if the application of the ASP when the system is “long” is removed.

SEM Compliance with Guideline on Electricity Balancing (EBGL)

- Questions?
- The spreadsheet containing initial analysis of all paragraphs has been published here:
- <http://www.eirgridgroup.com/site-files/library/EirGrid/Summary-of-Analysis-for-EBGL-Compliance-With-All-Guideline-Paragraphs-Updated-for-Publication.xlsx>