# Balancing Stakeholder Workshop

Date: 20 and 21 June 2018
Time: 10h00 – 17h00
Place: ENTSO-E, Brussels

# Panellists

| Name of the speaker | Company | Item |
|---|---|---|
| **20th June 2018** | | |
| Kjell Barmsnes – WG AS convener | Statnett | 1 |
| Frank Nobel – PT ISH convener | TenneT NL | 2 |
| Markus Maurer – PT Imbalanace Netting converner | TransnetBW | 3 |
| Amine Abada – TERRE convener | RTE | 4 |
| Pavel Zolotarev – PT aFRR convener<br>Benjamin Gênet – PICASSO Chairman | TransnetBW<br>Elia | 5 |
| Ulf Kasper – PT mFRR convener<br>Martin Høgh Møller – MARI Chairman<br>Iason Avramiotis – MARI Algorithm Workstream Leader | Amprion<br>Energinet<br>Swissgrid | 6 |
| **21st June 2018** | | |
| Pavel Zolotarev – PT Pricing Settlement and Activation Purposes convener | TransnetBW | 1 |
| Matthias Eder – MARI Settlement Workstream Leader<br>Alexandra Zigkiri – TERRE Workstream Leader | APG<br>Swissgrid | 2 |
| Paul Krall – PICASSO Task Force Leader<br>Esther Bos – PICASSO Expert Group PICASSO<br>Bernard Campion – PICASSO Task Force Leader | APG<br>TenneT NL<br>Elia | 3 |



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# List of registration

| | First Name | Last Name | Company |
|---|---|---|---|
| **1.** | Sophie | Marquet | N-SIDE |
| **2.** | Garth | Graham | Scottish and Southern Energy |
| **3.** | Michaël | Van Bossuyt | IFIEC Europe |
| **4.** | Anthony | Papavasiliou | Université catholique de Louvain |
| **5.** | Mikko | Heikkila | ENTSO-E |
| **6.** | Johannes | Schulz | RWE Supply & Trading GmbH |
| **7.** | Konrad | Keyserlingk | RWE Supply & Trading GmbH |
| **8.** | Yves | Langer | Smart Vision |
| **9.** | Olivier | Van den Kerckhove | ENGIE |
| **10.** | Levente | Császár | Budapesti ErQ mq Zrt. |
| **11.** | Carina | Putz | VERBUND Solutions GmbH |
| **12.** | Andreas | Linder | ENERCON GmbH |
| **13.** | Natalie | Lob | BDEW e.V. |
| **14.** | Marcel | Steinbach | BDEW e.V. |
| **15.** | Dr. Bernhard | Walter | EnBW AG |
| **16.** | Matthew | Roper | ELEXON Ltd |
| **17.** | Steve | Wilkin | Europex |
| **18.** | Michele | Cosimo | Terna |
| **19.** | Ken | Furusawa | CRIEPI |
| **20.** | Elena | Alonso | Endesa |
| **21.** | Manisha | Javer | BritNed Development Ltd |
| **22.** | Jørn | Klitgaard | Ørsted |
| **23.** | Teija | Pelkonen | UPM Energy |
| **24.** | Jukka-Pekka | Rantakokko | UPM Energy |
| **25.** | Jakob Krogshave | Laursen | Neas Energy |
| **26.** | Thomas Elgaard | Jensen | Energi Danmark A/S |



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|---|---|---|---|
| **27.** | Elena | Alonso Diaz | Endesa |
| **28.** | Olaf | Islei | Shell |
| **29.** | Jerome | Le Page | EFET |
| **30.** | Cristian | Lanfranconi | Arera |
| **31.** | Lorenz | Rentsch | Axpo |
| **32.** | Jan | Zacharias | Entelios |
| **33.** | Romain | Benquey | Restore Energy |
| **34.** | Thierry | Lemoyne | ARKEMA |
| **35.** | Marko | Špoljarić | HEP-Proizvodnja Ltd. |
| **36.** | Tomislav | Robina | HEP-Proizvodnja Ltd. |
| **37.** | Paul | Giesbertz | Statkraft |
| **38.** | Daniel | Fraile | WindEurope |
| **39.** | Davor | Bošnjak | HEP TRGOVINA d.o.o. |
| **40.** | Andraž | Šavli | Borzen, d.o.o |
| **41.** | Philipp | Wuillemin | Ompex AG |
| **42.** | Mathieu | Fransen | ACM |
| **43.** | Nicolas | Leroy | Novojy SPRL |
| **44.** | Paul | de Wit | Alliander |
| **45.** | Marta | Sánchez Esteban | ENDESA S. A |
| **46.** | Pierre | Castagne | Eurelectric |
| **47.** | Bohuslav | Podrouzek | CEPS |
| **48** | Stefan | Janson | EnBW |
| **49.** | Yannick | Phulpin | EDF |
| **50.** | Julian | Kretz | Next Kraftwerke |
| **51.** | Selim | Boussetta | CRE |
| **52.** | Martin | Vergier | CRE |
| **53.** | Arnaud | Lavoix | EDF |
| **54.** | Pär | Lydén | Svenska Kraftnät |
| **56.** | Hélène | Robaye | Eurelectric |
| **57.** | Nigel | Hawkins | Eurelectric |



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|---|---|---|---|
| **58.** | Alaistair | Owen | Ofgem |
| **59.** | Zoltan | Gyulay | ENTSO-E |
| **60.** | Marta | Mendoza-Villamayor | ENTSO-E |
| **61.** | Jan H. | Mortensen | Ørsted |
| **62.** | Rocío | González Barreiro | Iberdrola Generación |
| **63.** | Iñigo | Rupérez García del Carrizo | Iberdrola Generación |
| **64.** | Iason | Avramiotis | Swissgrid |
| **65.** | Pavla | Erhartova | OTE, a.s |
| **66.** | Jaroslav | Hodanek | OTE, a.s |
| **67.** | Silvia | Piliškić | HOPS |
| **68.** | Blandine | Malvault | Eurelectric |
| **69.** | David | Plomp | Vattenfall |
| **70.** | Matteo | Moraschi | Enel |
| **71.** | Martin | Apko | TAURES |
| **72.** | Leo | Pilgerstorfer | Südvolt |
| **73.** | Wolfgang | Heinze | Südvolt GmbH |
| **74.** | Kevin | Lascar | EDF |
| **75.** | Alexander | Dusolt | ENTSO-E |
| **76.** | Aimilios | Orfanos | Elia System Operator SA |
| **77.** | Vesa | Vänskä | Fingrid Oyj |
| **79.** | Ricardo | Renedo Williams | ENTSO-E |
| **80.** | Gonzalo | Morollón Castro | ENTSO-E |



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# MINUTES

## DAY 1 – ISH proposal and Implementation Frameworks

### 1. Welcome: Agenda and topics next consultation

ENTSO-E (Kjell Barmsnes) welcomes participants and introduces the workshop on behalf of ENTSO-E and the four implementation projects, IGCC, PICASSO, MARI and TERRE.

### 2. Imbalance Settlement Harmonisation

ENTSO-E (Frank Nobel) presents the proposal on imbalance settlement harmonisation.

Harmonised elements of imbalance settlement in EBGL such as (1) ISP 15 minutes (exemptions, derogation allowed), (2) no exemptions to balance responsibility (3) Calculation of imbalance BRP in self-dispatch model based on trade schedules only and, (4) Each NRA shall ensure that its TSOs do not incur economic gains or losses with regard to all energy settlement process: balancing energy, imbalance, intended/unintended exchanges and non hon-harmonised elements of imbalance settlement in EBGL, untouched by ISH proposal (1) Distinction between self-dispatch model and central dispatch model, (2) NRA methodologies of financial neutralisation TSOs, (3) GCT internal commercial trade schedules (4) Calculation of activated volume of balancing energy (i.e. requested or metered).

Eurelectric asks to develop a methodology on how to apply dual pricing, which in their opinion is a requirement from the EBGL. Eurelectric also asks whether they are other motivations for applying dual pricing other than to avoid overshooting. ENTSO-E expects that the main purpose of dual prising is indeed to avoid overshooting and is mainly applied in Scandinavian countries.

Engie asks for clarification on what items are major and what would be minor in this proposal. ENTSO-E explains that this is up to national decision under each national Terms and Conditions.

EFET finds that the proposal leaves open many elements TSOs can choose from, minor components that can also be included and a methodology for dual pricing would be needed. EFET asks to further detail the single pricing and the dual pricing methodologies. EFET underlines that the imbalance settlement price needs to create a level-playing-field as it is relevant for all other markets before. ENTSO-E explains that this is the All TSOs' proposals which will have to be approved by NRAs and further relevant components will be discussed in pricing of balancing energy.

Statkraft agrees with EFET that imbalance prices are crucial as all other prices are forward prices. Guidance would be good on what imbalance prices should look like, e.g. in physical scarcity, exhaustion of reserves situations. ENTSO-E refers to the EBGL according to which balancing markets should be fair, transparent and non-discriminatory. It is difficult to define the real-time value of energy. Also, a scarcity component can be added, based on national terms and conditions.

Engie questions on how the imbalance from one country will be transferred into the country that is providing the balancing energy and if there is any imbalance remaining in the country that originally was balanced. ENTSO-E confirms that this shift of the imbalance will influence the different areas and the implementation projects will explain in later stages how exactly it is done.



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## 3. Imbalance Netting Implementation Framework

ENTSO-E (Markus Maurer) updates on the Imbalance Netting Implementation Framework and inform that it has been delivered to NRAs on 18 June. He reminds this proposal was consulted during the date from 15 January to 15 March 2018; the project received 14 responses.

HEP TRGOVINA mentions on cross-border capacity, that the IN optimization cycle is on 4 seconds basis and the optimiser uses information that is available at that point in time. Thus, an activation and use of XB capacity in one cycle may not be updated for the same cycle. Thus for 4 seconds you may not have the right XB capacity, but only for the next cycle.

Eurelectric asks for the time planning of the accession of new countries to be published in order to enable the stakeholders to be prepared. ENTSO-E plans to publish it after internal confirmation.

BDEW asks if there is a dependency between the accession, so if there is any consequence of one TSO joining delayed. ENTSO-E states that the accession of TSOs is independent and don't affect each other.

## 4. Replacement Reserves Implementation Framework

ENTSO-E (Amine Abada) updates on the RRIF, which also has been submitted to NRAs on 18 June. He reminds this proposal was consulted during the date from 15 January to 15 March 2018; the project received 14 responses. Consultation results and shadow opinion were reflected in the Implementation Framework (IF). More information regarding the Implementation Framework will be available to stakeholders in the coming days.

EFET asks clarification why none of market participants' suggestions (e.g. Product incentivized shape) was included in the proposal and whether NRAs had a view on the comments received. ENTSO-E clarifies that the timeline did not foresee NRAs to comment on market participants' comments as their shadow opinion was done in parallel.

Eurelectric asks for written feedback on stakeholders' comments and on whether there will be transparency on the elasticity of the demand curve. ENTSO-E confirms that the answer from TSOs on the comments will be shared within the next days and that the methodology for calculating the demand and its potential elasticity will not be harmonised. Anyhow, the final prices will finally be published.

EFET is concerned that the RR GCT of 60mins may impact intraday markets and would like to see TSOs incentivized to move to 55 mins after Go-Live.

ELEXON asks for transparency on activated and available bids to maintain the level of transparency in GB.

Statkraft questions why counteractivations can't be avoided from the beginning. ENTSO-E explains that by not allowing counteractivations the expected performance of the optimization may not be achieved. Further work needs to be done and this seems the best solution to achieve the tight deadlines. An argument for including counteractivation is that it actually helps maximising social welfare.



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## 5. aFRR Implementation Framework

ENTSO-E (Pavel Zolotarev) updates on the aFRRIF. He notes that a high degree of alignment between the aFRR and mFRR Implementation Frameworks are, due to similar nature of the projects. Pavel presents the common articles of both proposals. As regard to the aFRRIF used are taken over from the EBGL, however there are also specific aFRRIF definitions included. Pricing of the standard product, TSO-TSO settlement and activation purposes are out of scope of the aFRRIF. Pavel mentions that the basic principles of aFRR are very similar to the concept of Imbalance Netting. Therefore, it is likely that aFRR and IN will be merged in the future.

The aFRR platform will establish the XB process for the aFRR process. It is expected that the full access to CMOL will be implemented, which will result higher liquidity. The guaranteed access to own bids will be also included in the platform in order to limit any disadvantages allowing full access to CMOL. The aFRR exchange shall include the FRCE adjustment with a maximum ramping period of 7.5 minutes (by 18 December 2025 of 5 minutes). In some cases, FRCE deviation will increase due to XB exchange. In order to mitigate for this process (as well as for unintended cross-border changes) FRCE adjustment process will be applied and the ACE distributed about all TSOs which had demand. Finally, fundamental parameters of the standard product were presented.

Statkraft asks clarification of the non-defined aFRR FAT before 2025 and the relation to the 7.5 mins FAT for XB exchanges. ENTSO-E explains that the XB product will have a 7.5 mins FAT or faster. This should incentivize countries to move to 7.5 mins early, however the exchange can also be possible with 15 mins FAT.

Eurelectric asks for the study on FAT to be published. ENTSO-E confirms that the study needs to be prepared for publication, which is expected in July. The assumptions of the simulation are included in the explanatory document.

ENBW questions whether there is an issue for the level-playing-field if there are numerous bids with different FAT in the interim period. ENTSO-E does not expect issues, also today different technologies provide balancing services with different speeds. However, harmonisation is still deemed beneficial. A direct move to 5 mins is expected to cause difficulties in the markets.

Statkraft asks for further clarification why it is not possible to harmonise directly. ENTSO-E explains that the XB product is rather an accounting product, the XB delivery is not relevant for maintaining the frequency. Also, the XB delivery can be faster than 7.5 mins.

HEP TRGOVINA asks on what happens if the cheapest bids are on 7.5 mins, and the imbalance occurs in a country with 5 mins, does it e.g. affect mFRR costs? ENTSO-E expects this to be a theoretical case which in practice should not appear as sufficient liquidity is expected.

EDF would like to see the 7.5 mins possibility to continue after 2025 as 5 mins FAT may reduce liquidity. ENTSO-E argues that harmonization is still needed to create a full level-playing-field, however a transition period has been proposed.

HEP TRGOVINA asks whether countries with longer FAT in the interim phase will benefit from earlier available data and how data is published to everyone at the same time. ENTSO-E explains that indeed the activated ones may get information earlier and there could even be countries with 10 or 15 mins FAT until 2025.

EFET understands that it is up to national decision if BSPs are allowed to activate faster than the FAT. ENTSO-E confirms that the selection will be done purely on the price, even if BSPs offer with a 10 min FAT.



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If BSPs provide balancing energy slower than 7.5 mins, the imbalance will remain in the respective country of the slower BSP.

Engie asks how in future national controllers will work if they don't activate bids directly anymore but via the European platform. ENTSO-E confirms that this is a technical question to be solved during implementation.

## 6. mFRR Implementation Framework

ENTSO-E (Ulf Kasper) presents the mFRRIF. Different definitions in comparison with the aFRRIF: elastic & inelastic demand; scheduled & direct activatable bids; divisible & indivisible bids.

Statkraft asks for explanation on what the target to minimize XB exchanges means. ENTSO-E clarifies that the main objective is to maximise social welfare and only if two solutions lead to the same result the second target is to minimize XB exchanges.

EnBW questions whether direct activations can be done at any point in time (continuously) or with short gates, e.g. each minute. ENTSO-E says it is in principal a continuous activation, however potentially gates could be introduced later. Scheduled activation will be done before the direct activation; therefore, DA will not be impacted by SA. Marginal pricing will ensure that there is no incentive to activate a DA bid before another TSO.

EnBW asks if there will be an issue with liquidity from moving to 12.5 mins. ENTSO-E expects no bigger issue with the liquidity.

Statkraft asks why TSOs include elastic demand in mFRR. ENTSO-E explains it can be used as cover for too high costs, but it mainly depends on the national situation.

ACM questions whether there will be two or one mFRR algorithms for DA and SA CMOLs. In principle the algorithm will be the same, but for the DA activations there will only be a need in one direction for each run.

RWE expects a competitive disadvantage of moving from 5 to 7.5 and 15 to 12.5, loosing liquidity. ENTSO-E points out that it was a big achievement to agree to one product. Liquidity issue is not expected to be a problem on national levels. The time to restore frequency is 15 minutes, thus a product is needed that fits.

Engie questions the need for countertrading. ENTSO-E argues that there is no reason not to match two bids that increases welfare. At that time ID is closed, so this is last option for XB optimisation. Especially for small BZs with lower liquidity benefits are seen.

EnBW understands that DA and SA bids will be remunerated simultaneously so to have cross activation type pricing and questions the relation to elastic demand. ENTSO-E refers to the discussions planned for the second day.

ACM asks stakeholders about the likelihood of that downward bids are higher priced than upward bids (reverse pricing) allowing for counteractivation. Usually, one would expect upward bid more expensive than downward bid. Statkraft deems this a possible scenario as a lot can be happening in the last hour. ENTSO-E thinks that it in general should be equaled out in ID, but changes may happen in last hour, also there is no restriction on how to do the pricing from BSP point of view.

EnBW asks clarification on: linking on mFRR platform and why a BSP cannot be activated in one ISP if it has been activated with a DA bid in the ISP before. ENTSO-E reasons that some units may need to fully ramp down before ramping up again. Can consider linking backward in time, forward in time does not work.



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The deactivation is always scheduled to the end of a quarter, to keep min delivery period of 5 minutes DA bids usually get activated for more than one ISP, so they ramp down in the second consecutive ISP.

# DAY 2 – Pricing and Settlement

## 1. General Principles for Pricing and Settlement

ENTSO-E (Pavel Zolotarev) opens the second day and presents the agenda.

Pavel remarks the general principles before getting into the details of this topic. Legal framework refers to two main Articles: 30 and 50 of the EBGL. Marginal pricing is the basis for the proposals. Marginal price represents the price of the last bid of a standard product which has been activated to cover the energy need for balancing purposes within a specified area. Advantage is that methodology should encourage market players to bid in with their variable cost and its consistent to day-ahead market.

Cross border Marginal pricing concept is used if there's no congestions between the areas, the marginal price will be the same. ENTSO-E presents the example about congested and uncongested areas. The slides also cover about the use cross border marginal pricing according with the EBGL in a consistent way with Day-Ahead market. However, calculation of marginal pricing needs to take into account the differences between the processes. Also, the One Product is explained that implies One price i.e. no cross-product pricing. National terms and conditions will define how to combine these different balancing energy prices when defining the imbalance price.

Besides, the pricing proposal and activation purpose structures are presented to the audience.

No questions from the audience.

## 2. Pricing methodology for mFRR and RR

TERRE Implementation Project (Alexandra Zigkiri) and MARI Implementation Project (Matthias Eder) present the current discussions options and decisions for the manual activation platforms: Replacement Reserve and Frequency Restoration Reserves, in regard to pricing methodology: Bid selection specifics and Volume and price determination.

- Alexandra updates the audience on: elasticity on demand, counteractivation and rejection of the bids, whereas Matthias updates the attendees on the volume determination, pricing of direct activation, price Indeterminacy, settlement of netted volume, interconnector controllability and congestion rent.

EFET comments that if in the Imbalance Settlement Harmonisation proposal there is a reference to imbalance adjustment, the pricing proposal (PP) should also be harmonized on this regard. TERRE Implementation project responses that, the EBGL doesn't require harmonizing the calculation of imbalance adjustment.

TenneT remarks that this proposal should make a clear reference to Article 50 and not Article 30 of the EBGL. MARI Implementation project agrees on that.

Matthias presents the current options for the volume and price determination. He presents the proposed basic principles: (1) One marginal price for all upward activated DA of respective QH, (2) One marginal price for all downward activated DA of a respective QH, (3) Determined after the point in time of the last



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possible DA, and (4) Clearing price of scheduled activation sets the floor for the upward DA price and the cap for the downward DA price.

EnBW asks for further elaborate about the imbalance adjustments in reference to this proposal. MARI Implementation project recaps the information on this regard for a better understanding of the audience.

TenneT asks about a harmonized methodology to calculate TSO's demand and how the TSO's demand is calculated, especially in the presence of elastic demand. MARI Implementation project responses that there is not such a methodology harmonized, it's up to each TSO to define their mFRR need. TenneT comments that this TSO demand is not part of national terms and conditions.

- Matthias presents price determination. The schedule activation approached is the same for RR and mFRR, while for the Direct activation the following assumptions are considered: continuous process for and one step approach of algorithm.

  Europex asks if the effect on the congestions are taken into account as they may happen within the activation period. MARI Implementation project affirms that those effect are considered.

  EnBW questions about the reasons to have different options in different projects and the relation to the value of avoided activations. MARI Implementation project responses this topic was recently identified, an explain the next steps are focusing onto two more simple options. The options 3,4,5 (refer to the slides of this workshop) would be the options considering the value of avoided activation. TERRE Implementation project remarks that pure netting of needs should not happen often, should be very rare situation.

  EDF wonders which bids are considered in each MOL. The way TSO uses the bids submitted should not be putted at risk and should receive same payment. TSOs should be very transparent on this, similarly to activation purposes proposal. (if direct activate bid is activated in the scheduled process already, this seems to be unfair for direct activated bid providers). MARI Implementation project responses TSOs will strive to be transparent on this.

- Alexandra introduces to the audience the price indeterminacy: special situation when identical bid and demand selection can lead to multiple optimal clearing price solutions. MARI Implementation project clarifies that one option will be included in the consultation.

  No questions from the audience.

- Matthias Eder presents the concept of netted volume

  TenneT states that the value of avoided activation is might or might not be included in the calculation of imbalances. However, this is not the value of avoided activation in the context of Imbalance Settlement Harmonisation.

- Alexandra presents the interconnector controllability under the topic of Activation purposes other than balancing. TSOs may activate bids for other reasons than balancing. For security reasons TSOs can define limits for minimum and maximum flow to allow for control in certain system conditions. This is proposed to be included in TERRE, MARI is studying this possibility. In order not to influence the marginal price due to activations for interconnection controllability, TSOs will run constrained and unconstrained algorithms. TSO who requests interconnection controllability will pay the extra costs.

  Engie asks about how will be the bids price with lower than marginal price and the relation to imbalance prices. TERRE Implementation project responses ENTSO-E responses that there are two activation purposes: balancing and system constrains. Bids activated for balancing purposes are affecting the marginal prices, interconnection controllability is activation for system constrains (pay-as-bid).



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Engie asks for clarification in regard to this information corresponds to TSO-TSO or TSO-BRP settlement. TERRE Implementation project clarifies that this is related to TSO-BSP settlement.

EDF questions about there is also other activation reasons than interconnection controllability, and the plans to of this proposal to make similar treatment for these others. TERRE Implementation project affirms that not only interconnection controllability is currently foreseen. MARI Implementation project response that this implementation project has not yet decided upon it.

Eurelectric asks over the concept of unconstraint run and wonders if previous markets are considered as the input for this activation. TERRE Implementation project that the previous markets are considered, so balancing capacities are the same.

EDF states that TSOs have two tools: constrain ATCs and interconnection controllability, and these have different effects onto pricing. In their opinion this is problematic. TERRE Implementation project elaborates more on this questions with the information and the explanation provided previously.

Engie questions the effect of the congestion management should not affect balancing price. MARI Implementation project updates on the Congestion Rent understanding among TSOs

ELEXON asks for the congestion rent, as this is not congestion rent from market perspective, but something else as ELEXON understands it. PICASSO Implementation project responses that congestion rent is not an income for TSO, as TSO is only monitoring it. Besides, it is reminded that there is on one-one relation between TSO costs and BRP costs.

## 3. Pricing and settlement methodology for aFRR and Imbalance netting

PICASSO Implementation Project (Paul Krall) presents an overview of the principals, the background of aFRR the pricing options (Centralized and local pricing options: with de-centralized approach there's different option per TSO for Settlement), the TSO-TSO Settlement and Congestion Rent determination.

RWE asks about the point 5 of the set of slides provided (page # 147 of the slides provided for this Workshop). As it stands, TSOs can set the prices. It should be the BSPs which set the prices. PICASSO Implementation project response that this extreme is definitely not the objective and clarifies the meaning of this point.

Engie asks for clarification of point 2 of the same slide (147) that states each bid with an accepted volume should be remunerated at least with the respective bid price. This looks more like pay as bid, not marginal pricing. PICASSO Implementation project responses that this can be ensured: the highest bid is activated and setting the marginal price. However, this cannot be made sure in all cases.

Engie questions about what price is applied within specific conditions (i.e. uncongested area). PICASSO Implementation project response that the determination of the price is per LFC area, but for uncongested area it will be the same. For example, one area has demand, one is supplying and second area don't have a demand, within uncongested area. The price will be the same for the three areas, but it if area don't activate anything, it won't be settled at this price.

- PICASSO Implementation Project (Esther Bos) presents BEPP slides. A decision on BEPP will be taken as part of a choice of a consistent set of settlement options and will be presented in the consultation on Article 30 proposal. The BEPP and effects of BEPP choice affect the consequences of open discussion points in regard to XB marginal price setting. Several mitigation measures to combat unnecessarily high imbalance prices are being investigated.



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EFET does a reflection questioning the approach presented, as aFRR can be seen as a combination of energy and power. This might lead that aFRR have very short power spikes which don't have energy relevancy.

EFET also ask about the price convergence with 4 sec BEPP is backed up by some studies. PICASSO Implementation project elaborates on that and promise to release a study covering this topic, which is currently on drafting.

RWE asks about the TSO role as the responsible for maintaining the frequency and ACE within given parameters. ENTSO-E responses that TSOs are also obliged to create market that not discriminate market participants in line with EBGL.

PICASO Implementation Project (Bernard Campion) present to the audience the volume determination & dummy energy. An explanation on the process carried out where It was decided not to harmonize activation method before PICASSO go live is presented. As a consequence, BSP-TSO volume determination is not harmonized.

EDF agrees this cannot be harmonized in short time. But some decision should be made and common approach is needed. If it's a technical issue it should be in the platform.

## 4. Q&A sessions

RWE makes a general remark, related on how ramps are treated in TERRE/MARI. TSOs have designed ramps that BSPs could do. However, aFRR approach is different. In their opinion dummy energy should not compensated.

HEP-Proizvodnja asks about the Balancing energy gate closure 25 min. BSP needs to put bids for period 2 while not knowing if they are activated on period 1. ENTSO-E/MARI Implementation Project response that for mFRR scheduled activations and activation starts 7,5 mins before ISP. This means 15 min before real time, enabling 10 minutes to evaluate if bids can go to platform or not. It's up to each TSO to define this process. ENTSO-E also elaborates that many TSOs will be transition from GCT one week or one hour to 25 minutes. Assessment is yet not completed.

BDEW asks regarding a fall back procedures in case a balancing energy has been produced/exported/imported. In this case the BSP expect a refund for following hours. ENTSO-E responses that the main fall back is the IT system of the connecting TSO. Other more sophisticated fallback mechanisms need to be investigated.

The audience welcomes to this workshop by the TSO's, they find it very useful as the options are still under consideration and not yet decided.



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