Transfer of Energy

Game Plan & Design Note

Brussels – 13/01/2025

Hybrid meeting rules

Please keep your camera on (to the extent possible)

Please turn off the microphone when you do not want to intervene

Questions:

- Post your questions in the chat (with slide number if applicable)
- Interactions are foreseen

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Agenda

Context

Need for flexibility & ToE framework

Current status ToE framework

Reminder VITO study

Synergrid vision

ToE Game Plan

Future improvements

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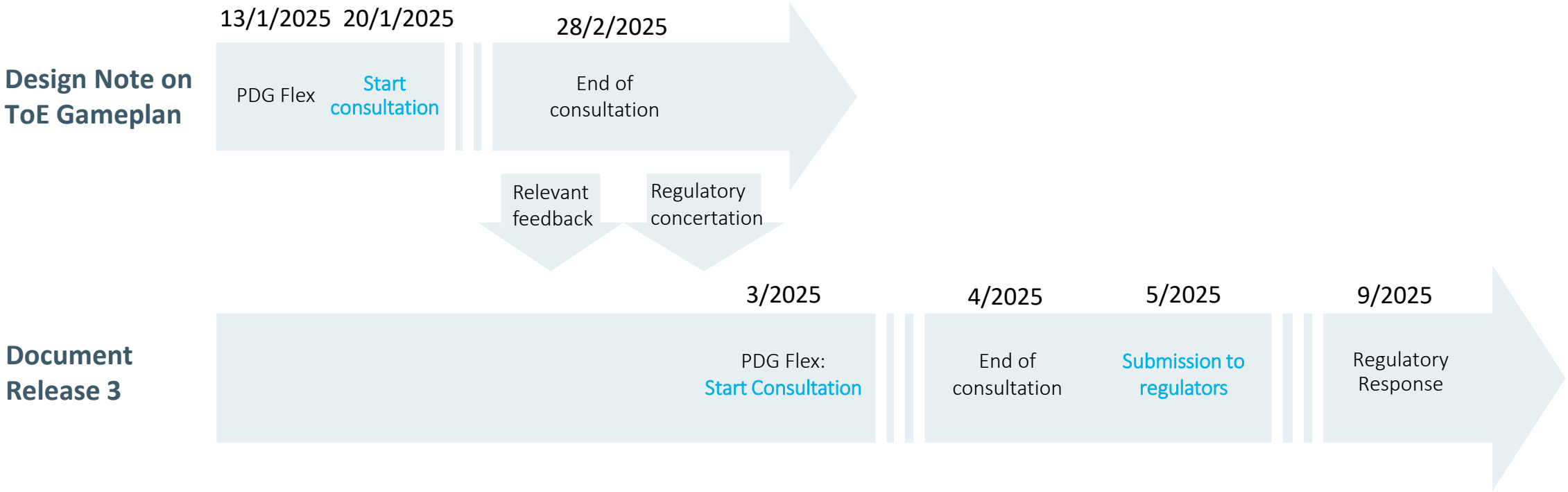
Context

- Synergrid organizes joint market consultations on specific topics via "PDG - Product Design Groups" on behalf of and for its members
- VITO did a study about the need for Transfer of Energy, presented in April 2024
- End of 2024 Synergrid has presented an overview of the market initiatives it is taking
- This session gives a more detailed overview of the Transfer of Energy Game Plan & Design Note, as **introduction for the start of a public consultation**

Indicative timeline Consultation Game Plan ToE + Consultation/validation Doc. release 3



Goal ToE Design Note

- Vision of Synergrid Members on Transfer of Energy for explicit balancing product on different voltage levels
- Propose design for ToE, including rational and possible future improvements
- Propose indicative timeline for roll-out ToE
- Get feedback from market to integrate in documents under consultation in Q2 2025 (a.o. ToE Rules & Doc Release 3)

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Main challenges faced by TSO/DSO

Adequacy / Incompressibility	Winter: enough supply for peak demand (CRM) ? Summer: too much electricity for low demand?
Balancing	Be able to balance the system at all time … in a world of more and more decentralised and intermittent generation
Congestion	Avoid overloading of transmission & distribution lines
Value for consumers	Facilitate new services that brings value for consumers but also suppliers, FSP,…..

Additional Flexibility Needs (2032)

Same Flex Volume can contribute to multiple purposes if well coordinated

Market Shared Ambitions

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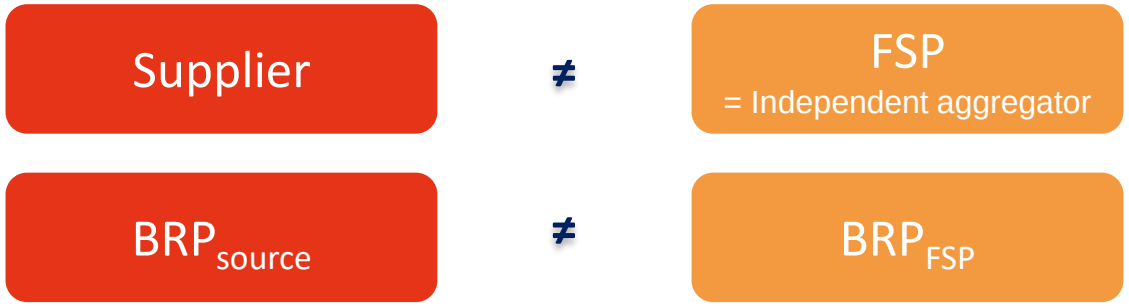
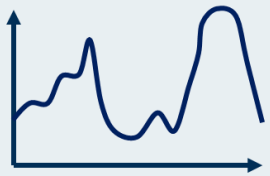
Increase offer of explicit flexibility

- By unlocking as much explicit flexibility as possible, also from more small decentralized flexible assets
- By allowing a grid user to valorise its flexibility via an FSP independently from his supplier



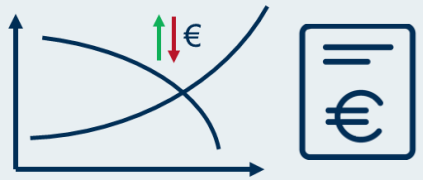
Need for correction mechanisms

BRP

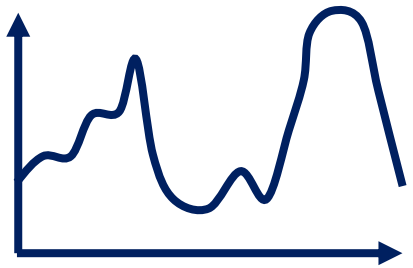


Nomination

SUPPLIER



Energy procurement



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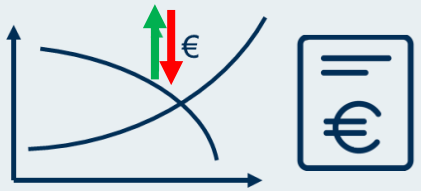
Source: VITO Study on the need for correction mechanisms for independent aggregation of DSO End Points

Need for correction mechanisms

BRP

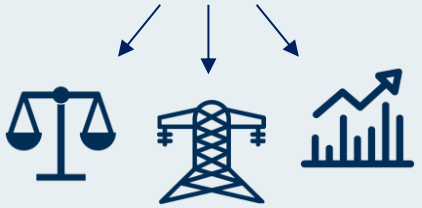
Nomination

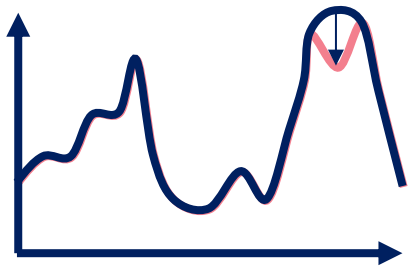
SUPPLIER



Energy procurement

INTEGRATED FSP





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Source: VITO Study on the need for correction mechanisms for independent aggregation of DSO End Points

Need for correction mechanisms

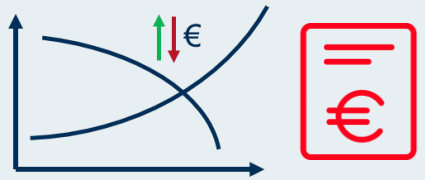
Imbalance issue

Loss of revenue

BRP

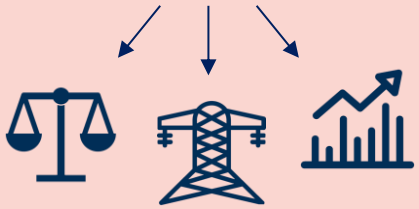
Nomination

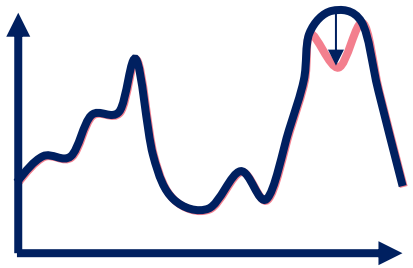
SUPPLIER



Energy procurement

INDEPENDENT FSP

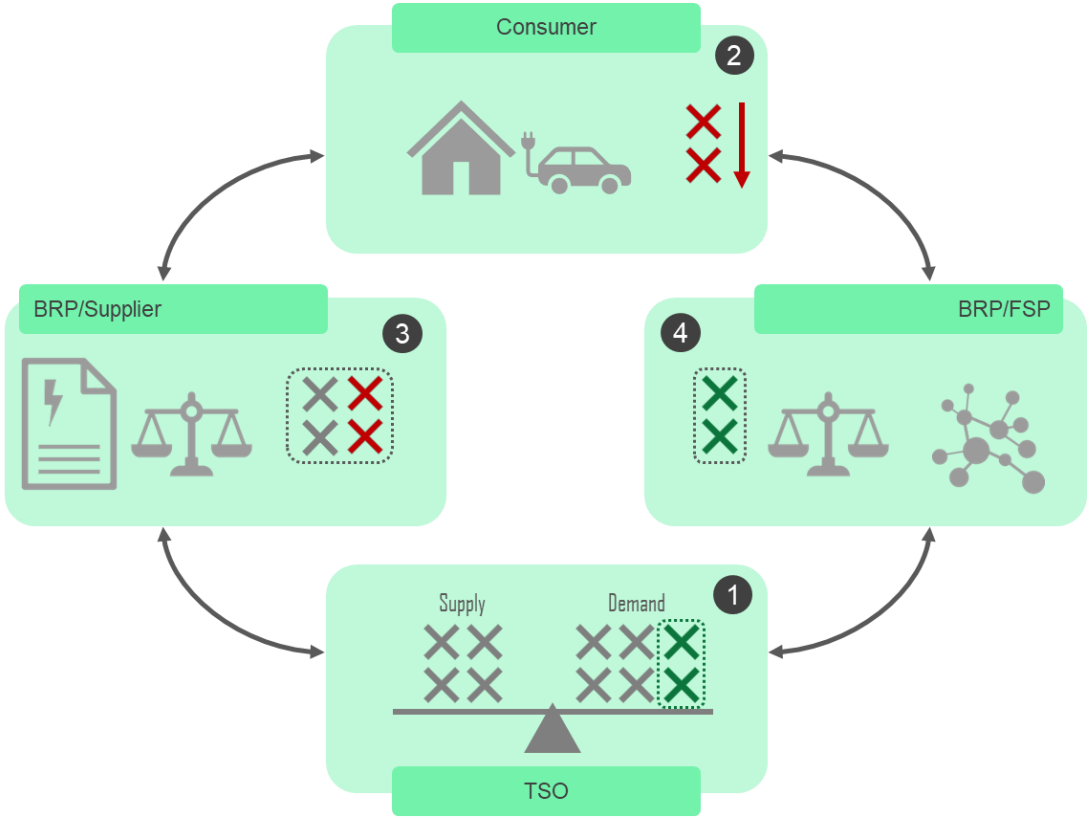




FLEXIBLE CONSUMER

Source: VITO Study on the need for correction mechanisms for independent aggregation of DSO End Points

The imbalance issue

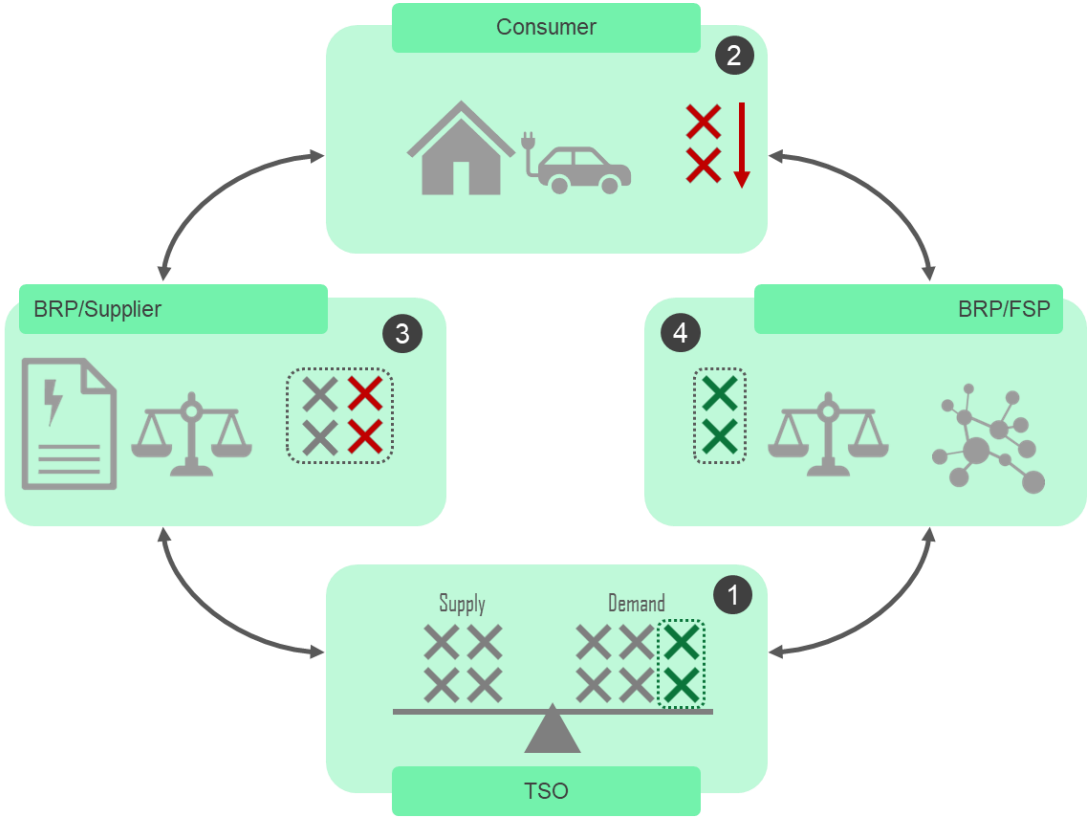


1. The TSO experiences an imbalance within its control area due to an excess of demand
2. Via the FSP, the consumer receives a request to reduce its demand in order to compensate for the imbalance
3. The $BRP_{Supplier}$ did not foresee the activation of flexibility and is 'missing' demand in its portfolio, resulting in an imbalance.
4. The TSO adjusts the portfolio of the BRP_{FSP} for the activated balancing energy bid in line with the EBGL*, resulting in an imbalance.

*: Commission Regulation (EU) 2017/2195 of 23 November 2017 establishing a guideline on electricity balancing

Source: VITO Study on the need for correction mechanisms for independent aggregation of DSO End Points

The loss of revenue



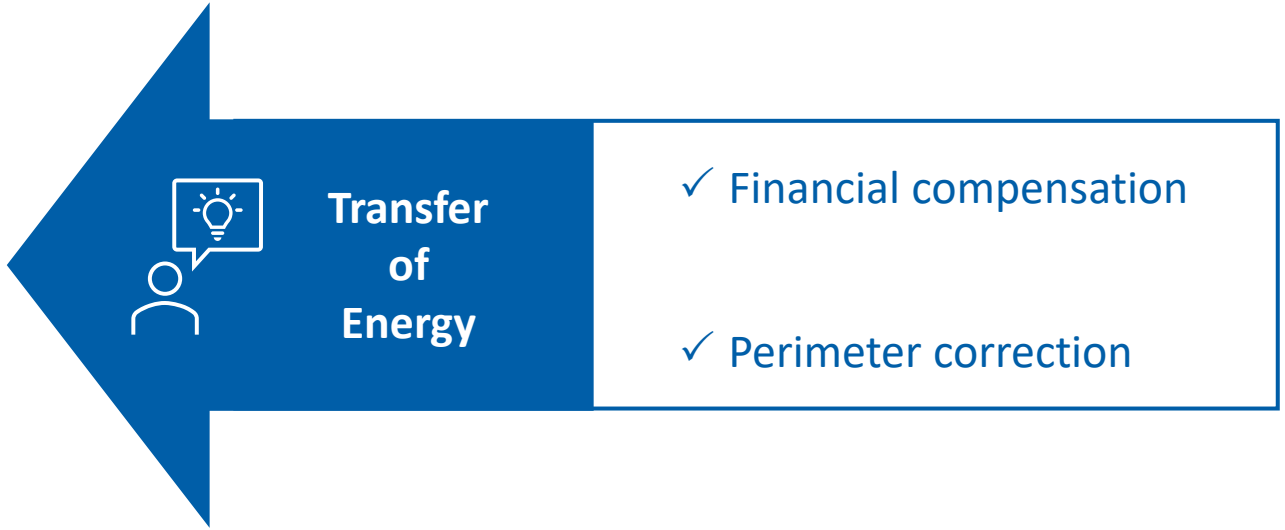
1. The TSO experiences an imbalance within its control area due to an excess of demand
2. Via the FSP, the consumer receives a request to reduce its demand in order to compensate for the imbalance
3. The energy not used by the grid user is still injected into the grid, and used by a different party, but the supplier can no longer invoice the grid user for this volume.
4. The FSP was able to use the energy for free to offer the balancing service to the TSO

Source: VITO Study on the need for correction mechanisms for independent aggregation of DSO End Points

Transfer of Energy aims to overcome these two challenges in unlocking flexibility

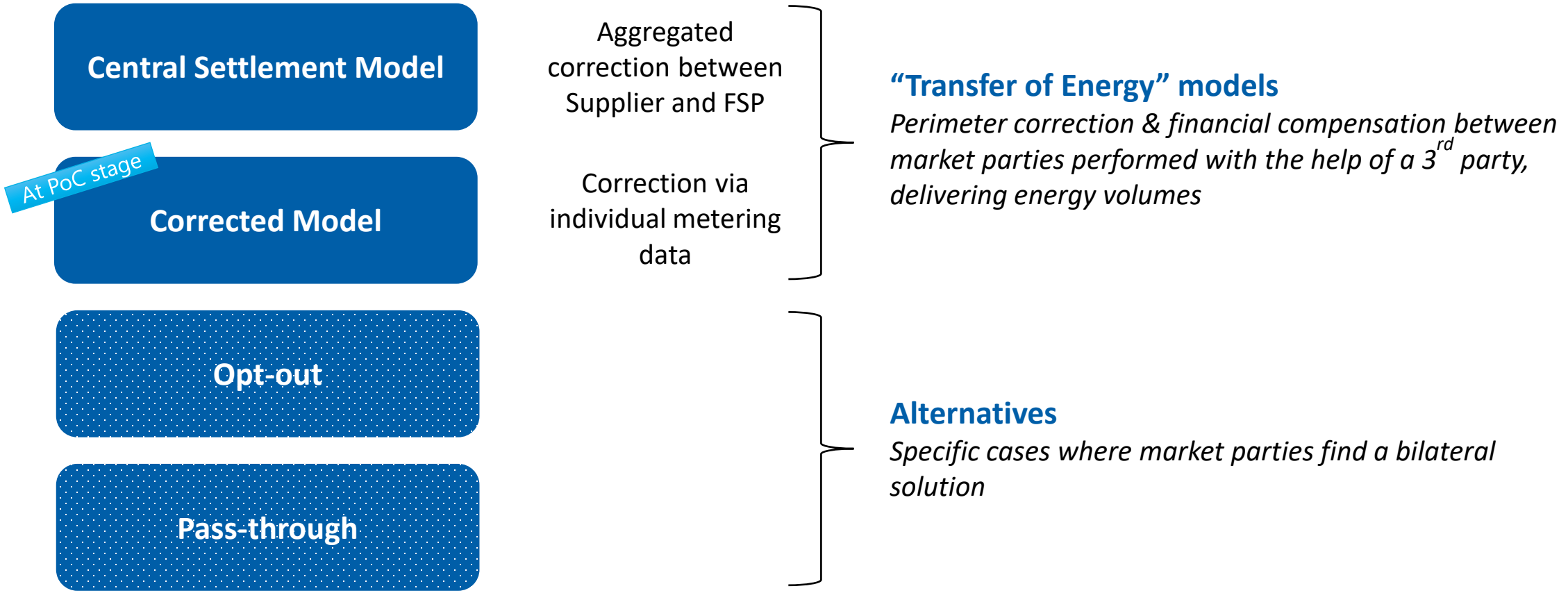
1 **Revenue issue**

2 **Imbalance issue**



- The Electricity Law of 29th of April 1999 was amended in 2017 create the “ToE” framework for all voltage levels, for the FRR balancing market segments and the DA/ID markets.
- This framework requires the drafting of “ToE rules” which shall set out the principles and practical details of ToE.

Four regimes for organizing the “Transfer of Energy” framework



The central approach relies on an ad-hoc FSP & Supplier relationship

Central Settlement Model

Corrected Model

Opt-out

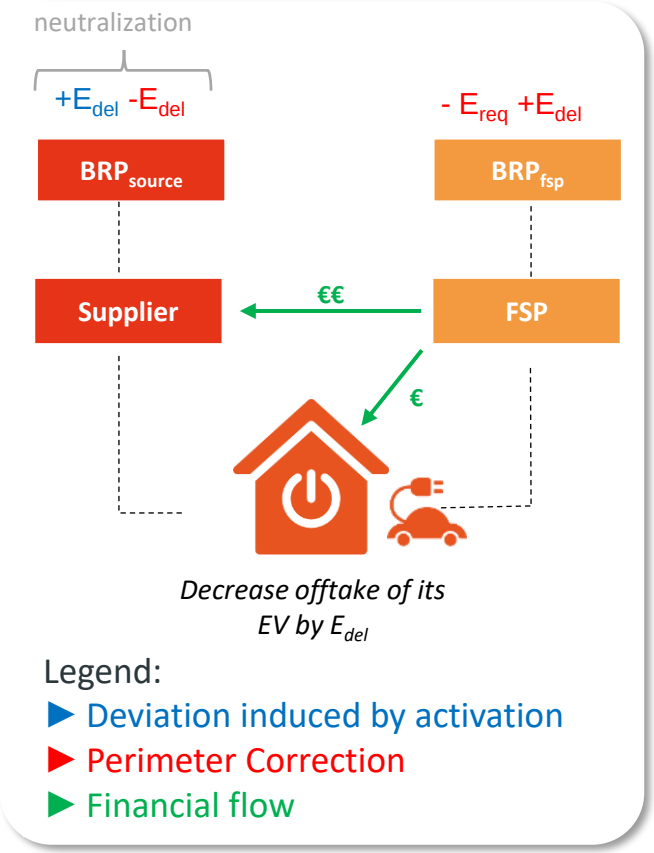
Pass-through

Condition to participate:

- FSP & Supplier demonstrate the proof of an *agreed price,* else *a regulated price (imposed by CREG)* applies

Correction/settlement:

- Elia corrects BRPs' perimeters
- All volumes necessary for the settlement are calculated and put at the disposal of the market parties
- Financial arrangement is between the Supplier & FSP



The corrected approach puts the consumer at the center of the process

Central Settlement Model

At PoC stage

Corrected Model

Opt-out

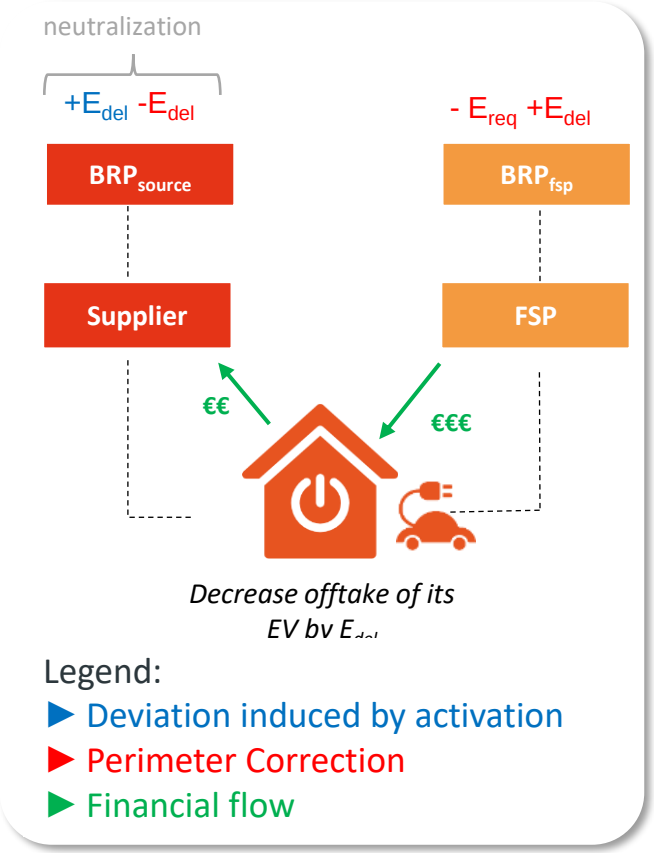
Pass-through

Condition to participate:

- FSP demonstrates the proof of *agreement of end-user?*

Correction/settlement:

- Elia corrects BRPs' perimeters
- All volumes necessary for the settlement are calculated and put at the disposal of the market parties
- Supplier invoices end-user based on corrected offtake (i.e. as if no flexibility was activated)
- FSP pays the end-user for the flex volume



Opt-out negotiations are the preferred solution but can easily be blocked by unwilling BRP_{source}/Supplier

Central Settlement Model

Corrected Model

Opt-out

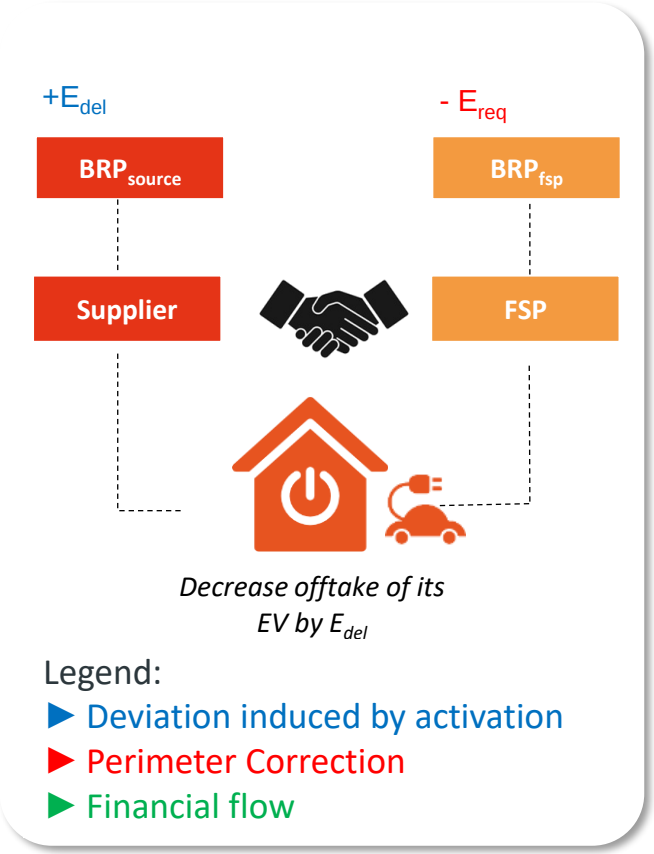
Pass-through

Condition to participate:

- FSP & Supplier demonstrate the proof of an *Opt-out agreement*

Correction/settlement:

- Elia corrects only for the flex activation (E_{req})
- BRP_{source}, BRP_{fsp}, Supplier and FSP settle on their own



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Pass-through is only accessible for large industrial customers

Central Settlement Model

Corrected Model

Opt-out

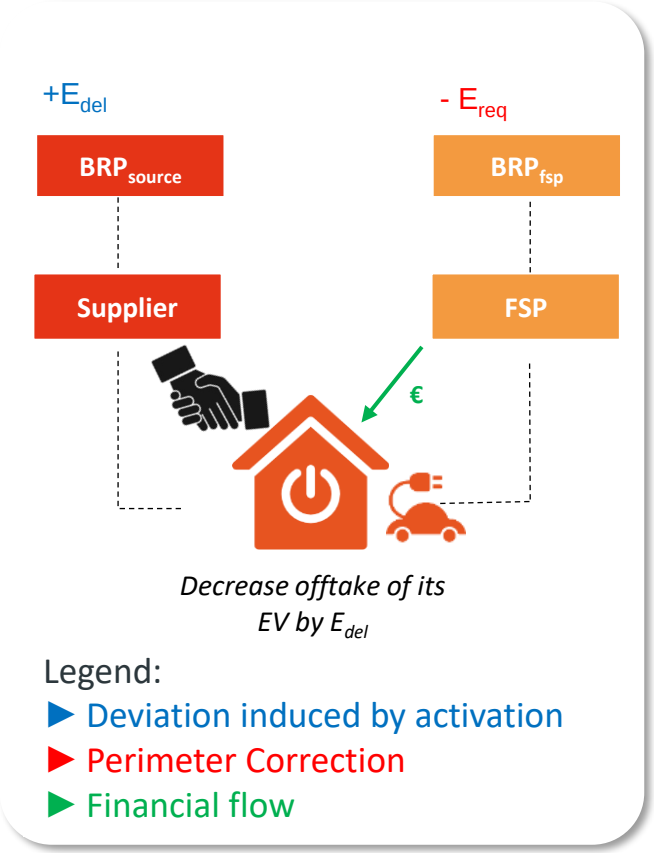
Pass-through

Condition to participate:

- FSP demonstrates the proof that *end-user has a pass-through contract*

Correction/settlement:

- Elia corrects only for the flex activation (E_{req})
- BRP_{source}/Supplier are not impacted by the activation as they pass their imbalance to the end-user (who pays deviation based on Imbalance price)
- End-user, FSP/BRP_{fsp} settle by their own



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Current status of the ToE roll-out

Product	Voltage level	Model		
		ToE Central Settlement Model	Opt-out	Pass-Through
FCR		ToE Not Applicable		
mfRR	*Transmission & local transport*	✓Since 2018	✓Since 2018	✓Since 2020
	HV-MV distribution	✓Since 2018	✓Since 2018	✓Since 2020
	LV distribution (<= 1 kV)	TBD	TBD	TBD
aFRR	*Transmission & local transport*	TBD	✓Since 2021	✓Since 2021
	HV-MV distribution	TBD	✓Since 2021	✓Since 2021
	LV distribution (<= 1 kV)	TBD	✓Since 05/2024	✓Since 05/2024
DA/ID	*Transmission & local transport*	✓Since 2021	✓Since 2021	✓Since 2021
	HV-MV distribution	✓Since 2021	✓Since 2021	✓Since 2021
	LV distribution (<= 1 kV)	TBD	TBD	TBD

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Evaluation of the current status

- Opt-out and Pass-through: allow bilateral negotiations & market based solutions
- ToE Model(s) needed to incentivise parties to come to an agreement and/or as fallback to failed bilateral negotiations
- Gaps in availability of ToE
  - Not for aFRR, and same model has to apply to mFRR and aFRR for given Supplier-FSP couple
  - Not for LV-connected points
- ToE DA/ID not used so far
- Downsides to current ToE Central Settlement Model
  - Long negotiation procedure before CREG can impose a price formula

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Study on the need for correction mechanisms for independent aggregation of DSO End Points:

Summary of findings

Annelies Delnooz

Energy Ville
KU LEUVEN
vito
imec
UHASSELT

Conclusions of VITO study (finalized Q1 2024)

- Limited Participation of LV Flexibility in EU - Reduced sense of urgency in EU countries.
- Complex interplay of economic factors and market dynamics significantly influencing economic transactions: flexibility direction (up or down), the signs, volumes, and rankings of prices (imbalance price, service delivery price, retail price, and regulated price) relative to each other
- What is however uniform: without implementation of correction/compensation mechanisms, flexibility will not be procured/provided by LV. Logical step: transition from uncorrected model to create a level playing field for FSPs, a perimeter correction becomes imperative.
- Financial compensation as measure to mitigate to some extend the negative impact on supplier's net position - central settlement and corrected model (model of choice for supplier)
- Both models (central settlement and corrected) tackle the imbalance issue and loss of revenue but entail diverging advantages and disadvantages. (e.g. complexity to establish a uniform financial compensation and the risk of complexity of billing for the consumer (i.f.o. verification))
- Contract-based aggregation models can still operate alongside independent aggregation models. However, they should no longer be regarded as the default option but rather as alternative or backup options.

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Starting Point Synergrid

- Consider either the Central Settlement Model (CSM) or Corrected Model (CM) to tackle the imbalance issue and loss of revenue keeping in mind they entail different advantages and disadvantages
- Make the ToE model(s) available on all voltage levels and products if relevant
- Contract-based aggregation models can still operate alongside independent aggregation models (i.e. OOR and PTR)
- A default model should be applicable with minimal (administrative) burden

Refinement of Models

Central Settlement Model

- VITO proposes regulated price
- Current legal framework: 4 months of bilateral negotiations, then CREG imposed price formula if needed
- Given current legal context, Synergrid proposes to stick to current solution

Corrected Model

VITO proposes 2 variations

1. **Correction at source**: corrected metering data
    - Grid fee data impossible + significant implementation effort at system operators + complex for GU
2. **Correction at invoice**: non-corrected metering data + activated volumes communicated to BRP/supplier, so supplier can invoice grid user based on corrected data

Evaluation of Models: CSM vs CM

= Common points

- Provide **level playing field** for independent FSP
- Solve **perimeter correction**
- Can support **financial compensation**
  - CSM: no price formula (incl. CREG price) fits all cases, long negotiation process, operational settlement process FSP-Supplier
  - CM: compensation at contract price, no negotiation/operation between FSP-Supplier

>< Differences

- **End user treatment**
  - CM: no confidentiality + need to ensure that flex activation covers compensation at contract price
- No formula fits all leading to imperfect financial compensation in CSM
- CSM already exists and is relatively easy to extend, whereas CM involved some additional complexity for system operators and suppliers, and approval by regulators

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Considerations

Synergrid took the following aspects in consideration:

- Implementation timing
- Same default model cross-voltage and cross-product
- Complexity for Grid User (different maturity depending on voltage level)
- Regulatory compliancy
- Financial impact on Supplier and FSP
- Keep freedom of negotiation for Supplier and FSP
- Customer protection

Proposed solution

- CSM (with bilateral negotiations) as the default model, to be gradually extended to all voltage levels and balancing products
- CM as an alternative for Grid Users connected to Elia grid
- Opt-out and Pass-through models remain available as alternatives
- A step-by-step approach will be followed, where each step is conditional on an evaluation, and the timing is indicative due to external factors such as the need for regulatory approvals

Gradual implementation steps for CSM

2025-Q3

Extend CSM to aFRR on HV/MV

2026-Q1

Extend CSM to mFRR on LV (together with mFRR LV opening) Start with mFRR LV on headmeter

Proof of Concept CSM for aFRR on LV
→ Start with PoC setup first to gain experience that will be used in final design and implementation

2026-Q3

Extend CSM for aFRR on LV

2027-Q1

Extend CSM to mFRR on LV submeter

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Disclaimer: each step is conditional on an evaluation and the timing is indicative due to external factors such as the need for regulatory approvals

Initial implementation CM

2025-Q3

Implement CM as option next to CSM for aFRR and mFRR for Elia-connected delivery points

- Just as the Pass-Through model is an option that can be applied regardless of the regime (ToE or Opt-Out), CM will be an option that can be activated with consent of the Grid User

Disclaimer: each step is conditional on an evaluation and the timing is indicative due to external factors such as the need for regulatory approvals

Overview of the proposed ToE roll-out

Product	Grid	Model			
		ToE Central Settlement Model	ToE Corrected Model	Opt-out	Pass-Through
FCR		ToE Not Applicable			
mfRR	*Transmission & local transport*	✓Since 2018	➔ Q3-2025	✓Since 2018	✓Since 2020
	HV-MV distribution	✓Since 2018	TBD	✓Since 2018	✓Since 2020
	LV distribution (<= 1 kV)	➔ head Q1-2026 ➔ sub Q1-2027	TBD	➔ head Q1-2026 ➔ sub Q1-2027	➔ head Q1-2026 ➔ sub Q1-2027
aFRR	*Transmission & local transport*	➔ Q3-2025	➔ Q3-2025	✓Since 2021	✓Since 2021
	HV-MV distribution	➔ Q3-2025	TBD	✓Since 2021	✓Since 2021
	LV distribution (<= 1 kV)	➔ PoC Q1-2026 ➔ Q3-2026	TBD	✓Since 05/2024	✓Since 05/2024
DA/ID	*Transmission & local transport*	✓Since 2021	TBD	✓Since 2021	✓Since 2021
	HV-MV distribution	✓Since 2021	TBD	✓Since 2021	✓Since 2021
	LV distribution (<= 1 kV)	TBD	TBD	TBD	TBD

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Disclaimer: each step is conditional on an evaluation and the timing is indicative due to external factors such as the need for regulatory approvals

Future Improvements

- Evaluation in 2027: Impact of the developments + Evolution of market (a.o. ToE, Supply Split)

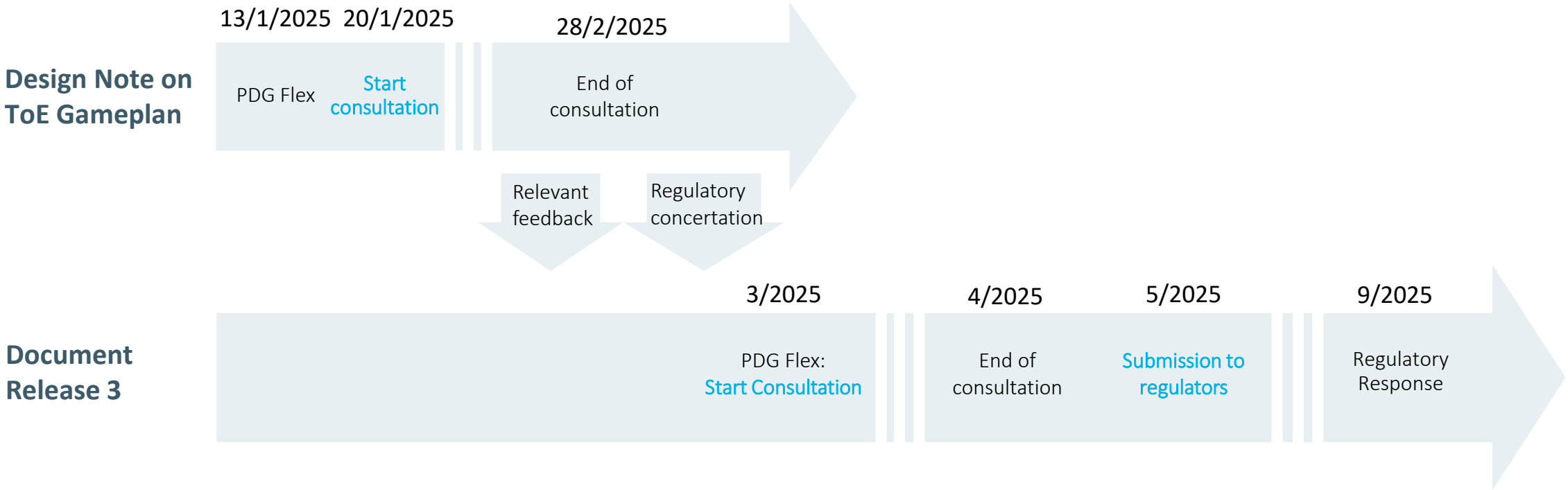
- If a further need to unlock flexibility is identified, Synergrid will analyse additional, potential improvements such as:
  - CM for non-Elia connected delivery points
  - ToE DA/ID LV
  - Implicit Flexibility
  - …

Remaining considerations

Several additional considerations are described in the note, such as:

- The choice by market parties between OOR, PTR, ToE models
- Metering granularity
- Combination of ToE and energy sharing
- Missing or faulty metering data
- Supply & customers switches (including rectification and supplier switches in the past)
- Provisional allocations & BRP perimeter corrections
- Settlement: energy volumes, not euro's
- Simplifications
- GDPR

Indicative timeline Consultation Game Plan ToE + Consultation/validation Doc. release 3



Consultation practicalities

Consultation of Design note

- Start 20/01/2025
- End 28/02/2025

Design note will be available on Synergrid's website

Send us your feedback on the Design Note

- Web tool on Synergrid's website
- Email: *marketconsultation@synergrid.be*

Links will be sent by email on 20/01/2025

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