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EXECUTIVE SUMMARY

REQUEST FOR DEROGATION OF IMPLEMENTATION OF 30 MIN CROSS-ZONAL GATE CLOSURE TIME IN THE INTRADAY ELECTRICITY MARKET

[Final version after public consultation]

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1. Introduction

Having regard to the decision of the Danish TSO, Energinet, to apply for derogation for the implementation of 30 min cross-zonal gate closure time in the intra-day electricity market, this executive summary accompanies the formal request for derogation ("*Ansøgning om undtagelse for tidsfristen for implementering af 30 min Cross-zonal Gate closure Time i Intraday-Markedet*").

Pursuant to CACM Article 12, the request for derogation and associated documents are subject to a mandatory public consultation period of no less than one month. Energinet has therefore published this derogation request for public consultation on its consultation portal. The consultation period extended from December 20, 2024, to January 31, 2025.

During the consultation period, Energinet received six consultation responses. Energinet has reviewed and addressed the responses received in a separate consultation report. Energinet has made smaller amendments to the derogation request to reflect the received responses prior to the final submission to the Danish Utility Regulator (DUR).

As the request for derogation is targeted the DUR and therefore written in Danish, Energinet has prepared this executive summary in English targeted non-Danish speaking stakeholders. With this executive summary, Energinet considers its obligation to allow for consultation on the impact assessment, taking into account feedback from NEMOs and relevant market participants concerned, as stated in Regulation (EU) 2024/1747, Article 8, paragraph 1a, of 13 June 2024¹, to be fulfilled.

2. Motivation for the need to request a derogation

Towards 2026 and beyond, new implementations will significantly change system operation processes in the timeframe after the intraday market closes. Particularly, the implementation of mFRR EAM and 15 MTU in the intraday and day-ahead markets will result in system operations transitioning from rolling hourly operations to rolling quarter-hourly operations. This implies that at the mFRR EAM go-live in March 2025, the balancing timeframe will shift from an hourly to a quarter-hourly basis, as a steppingstone for Energinet's accession to MARI no earlier than 2026. This means that operators will need to manage the processes related to balancing (planned activation) every 15 minutes, instead of once an hour. Operators must continuously monitor the current quarter-hour operational situation and plan for the next quarter-hour. Additionally, with the introduction of the 15-minute MTU in the ID and DA markets, results will be available every 15 minutes rather than once an hour as is currently the case.

If 30 min ID CZ GCT were to be implemented no later than 1 January 2026, this would happen in a period that is dominated by a high degree of uncertainty affecting Energinet's system operations. At the same time, Energinet's operational staff will be undergoing training to learn how to operate newly implemented operational processes and tools as part of the implementation of the above-mentioned implementation projects. Moreover, all these projects require various levels of IT integration to be successful.

In parallel, Energinet's system operations is increasingly affected by local grid congestions resulting from increasing penetration of variable renewables in a challenged transmission grid, as well as situations with large imbalances that need to be managed close to real time.

¹ [REGULATION \(EU\) 2024/1747 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL](#) of 13 June 2024 amending Regulation (EU) 2019/942 and Regulation (EU) 2019/943 as regards improving the design of the Union's electricity market

The many planned go-lives the next couple of years, as outlined in Figure 1, create an entirely new market and operational situation for Energinet and market participants to navigate in.

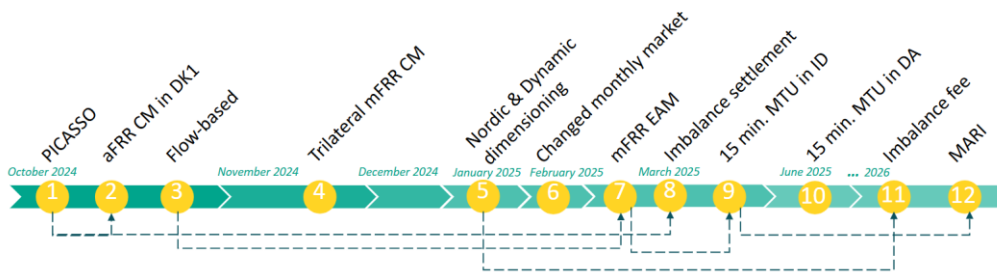


Figure 1: Timeline of ongoing and coming market implementations.

After transitioning to mFRR EAM in March 2025, a significant part of the balancing task will be carried out automatically in the balancing market. During critical operational situations with e.g. higher imbalances or grid congestion, Energinet's control center, however, may need to carry out other necessary measures to manage imbalances before real time, if access to balancing resources in the balancing markets are insufficient. This process can involve a range of procedures, including some that are currently manual and time-consuming, which either cannot be automated before 1 January 2026 (e.g. processes related to local congestion management), or which cannot be automated at all and will therefore need to be reassessed (e.g. TSO-TSO trades also known as Agreed Support Power or ASP).

Furthermore, Energinet is challenged by an IT-backlog following the implementation of Flow-based market coupling in day-ahead, PICASSO and coming implementations of mFRR EAM, 15 min MTU and MARI. The contemporaneous implementation of these projects combined with limitations in Energinet's IT capacity means that it has been necessary to, in the first place, implement minimum viable solutions, to mitigate potential implementation delays. A significant share of Energinet's IT resources is already allocated to correct and replace these solutions with permanent ones during 2025 and 2026.

Energinet's system operations will not by 1 January 2026 have had the necessary time to adapt and learn from the many changes to the market and operational conditions following go-live of the ongoing and coming market implementations. As an example, MARI go-live is seen as a precondition of implementing a shorter ID CZ GCT, but Energinet will go live on MARI no earlier than 2026.

Energinet implementing 30 min ID CZ GCT by the date set in the regulation of 1 January, 2026 is therefore not feasible and neither is it consistent with ACER's decision from 2018, which states that when "... sufficient experience is gained with the balancing processes in the context of the integrated electricity balancing market, TSOs should, in the Agency's view, further minimise the time needed for scheduling and balancing operations..."².

Finally, as has also been mentioned in the received consultation responses, regional coordination of the go-live of 30 min ID CZ GCT needs to be ensured. During the consultation phase, Energinet has been informed by the Swedish TSO, Svk, that they will apply for the full derogation period, i.e. no later than 1st January 2029. Furthermore, the Norwegian TSO, Statnett, has signaled to Energinet that they are not for the time being able to implement 30 min ID CZ GCT before 1st January 2029. In addition, it is the understanding of Energinet that the Netherlands

² Page 12, line 62 in [ACER Decision 04-2018 on IDCZGTs_0.pdf](#)

(Tennet NL) and Germany (50 Hertz and TenneT DE) do not plan to seek any derogation, however final decisions have not been made.

Energinet participates in the general coordination at European level regarding implementation of the shorter gate closure time as part of the cooperation under the Market Coupling Steering Committee (MCSC) and ENTSO-E.

Motivated by the reasons explained above and because of the current uncertainty surrounding the neighboring bidding zones, Energinet finds it most efficient to apply for a derogation until 1st January 2029. With that said, Energinet wants to stress the point that Energinet intends to implement 30 min ID CZ GCT as soon as possible, i.e. underscoring the “no later than” in the regulation.

3. Legal basis

The EU's electricity market reform of June 13, 2024 (EMDR) amended Article 8(1) of the Electricity Market Regulation, changing the intraday cross-zonal gate closure time (ID CZ GCT) from 60 minutes before delivery to as close to real-time as possible, with a maximum of 30 minutes before delivery, effective no later than January 1, 2026.

The gate closure time for the cross-zonal intraday market balances two main objectives outlined in Article 59(2) of the CACM Regulation (EU 2015/1222):

1. Maximising trading opportunities for market participants as close to real-time as possible
2. Allowing TSOs and market participants sufficient time for planning and balancing processes, ensuring grid security and reliability

The intraday market represents the last opportunity for market participants to balance production and demand through trading. It plays a crucial role in integrating volatile renewable energy into the system. Shortening the ID CZ GCT aims to improve market efficiency, reduce corrections needed in the balancing market, and allow for efficient integration of renewable energy.

The reform allows Member States' regulatory authorities to grant exemptions, upon request by the relevant TSO, extending the implementation deadline to January 1, 2029. The derogation must be based on an impact assessment highlighting negative impacts on:

- National electricity security of supply
- Cost-efficiency, particularly regarding balancing platforms
- Renewable energy integration and carbon emissions

The derogation request must also include an action plan detailing the path to achieving a shorter ID CZ GCT by January 1, 2029. Energinet therefore intends to invoke this regulatory provision to request a derogation until January 1, 2029, at the latest. Energinet will strive to balance the previously mentioned main objectives and implement the change to 30 min ID CZ GCT as soon as possible.

4. Impact assessment

Energinet's approach to performing the impact assessment is that impacts on security of supply are viewed as precursors for impacts on cost efficiency, as well as renewables integration

and carbon emissions. Specifically, this means that negative impacts on security of supply affect cost-efficiency and RES-integration.

It should be noted that performing such an assessment of the impacts of implementing 30 min ID CZ GCT by 1 January 2026 is conditioned on a great deal of uncertainty. This is primarily because Energinet does not for the time being fully know how the market and operational situation will develop on the other side of the go-lives of the abovementioned implementations. For this reason, Energinet cannot quantify the negative effects of implementing the requirement. Instead, however, Energinet provides a qualitative assessment of the impacts of 30 min ID CZ GCT by describing causal relationships between the shortened ID CZ GCT and how this impacts security of supply, cost efficiency and RES-integration and carbon emissions, respectively.

Figure 2: Overview of impacts included in the impact assessment. below provides an overview of the impacts included in the impact assessment.

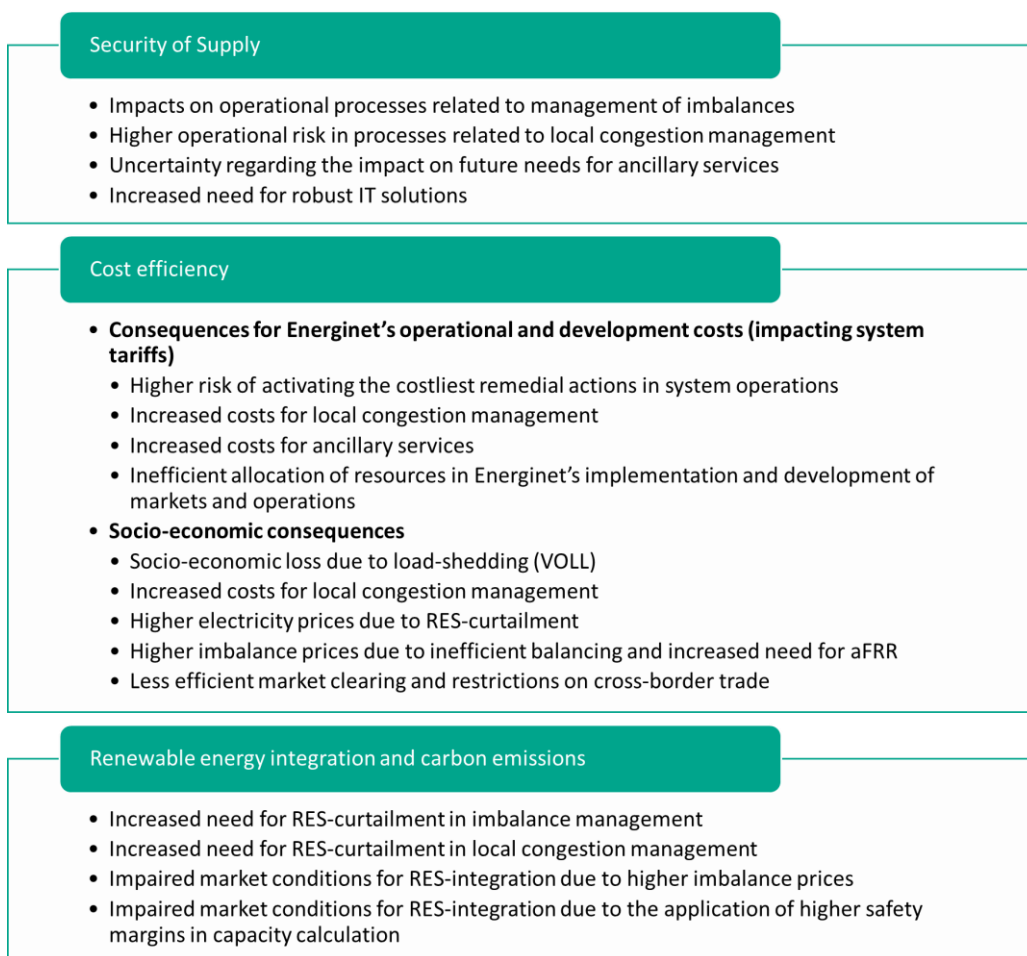


Figure 2: Overview of impacts included in the impact assessment.

4.1 Security of supply

In Energinet's view, implementing the 30 min ID CZ GCT from January 1, 2026, increases the risk of negative consequences for national security of supply, particularly driven by greater risk in system operations. This should be seen in the context of the dramatically changing market and operational situation as described above. The assessed consequences for security of supply are detailed below.

Impacts on operational processes related to management of imbalances

30 min ID CZ GCT shortens the time available for control center operators to get an overview of flows, available transmission capacity and imbalances within the operational quarter-hour and to prepare for the subsequent quarter-hour. Operators will not have sufficient time available to apply manual operational processes after ID CZ GCT, e.g. Active Support Power (ASPs) with neighboring TSOs, loop flows, etc. Even if the shorter gate closure time may potentially lower the imbalances left from the ID market on average, this is not necessarily the case during very challenging operational states, e.g. due to sudden changes in weather conditions, outages or other unforeseen events. There is therefore a risk that the control center operators will need to manage imbalances of the same size as today, but with significantly shorter time available. The shorter time available increases the risk of grid overloads and reduced frequency stability, which need to be mitigated with remedial actions in system operations.

Higher operational risk in processes related to local congestion management

30 min ID CZ GCT shortens the time available after market closure to prepare processes related to local grid congestion management. This is especially troublesome, since local congestion management is still based on manual processes and will not be automated before 2026. Furthermore, if implemented 1 January 2026, Energinet will not yet have transitioned to MARI, which would otherwise increase the time available for bid selection from 8 to 13 minutes. These additional 5 minutes may be critical in effectively managing situations with grid congestion, which could have otherwise mitigated the risk of activating the wrong bids, costlier bids or not enough bids. Also, Energinet may not be able to prioritise the critical IT resources needed to ensure the required level of automation of processes related to local congestion management. These effects combined may increase the need to apply costly remedial actions to mitigate grid overloads, e.g. load shedding/brownouts, applying a higher safety margin in capacity calculations, or preventive RES-curtailment.

Uncertainty regarding the impact on future needs for ancillary services

30 min ID CZ GCT limits the possibilities of applying manual processes in the operational management of imbalances. Furthermore, Energinet may be challenged by inadequate market liquidity on balancing markets for mFRR, if TSOs detains more bids from the balancing platform for local congestion management than is necessary. A shorter GCT is ill-suited for cross-border energy activation markets, because the shorter time available risks limiting the possibility to make direct activations on the MARI platform shortly after ID CZ GCT. This may increase the need to procure mFRR and aFRR capacity locally to ensure access to sufficient balancing resources. Given the historically low levels of aFRR liquidity in Denmark, this may increase the risk of grid overloads and reduced frequency stability.

Increased need for robust IT solutions

30 min ID CZ GCT increases an already pressing need for operational process automation and shortens the time available, in which manual fall-back solutions may be applied in case of IT failures. This exacerbates the risk that Energinet must suspend trading in intraday in the respective MTU. This limits market participants' abilities to self-balance their positions through intraday trading, which risks moving larger imbalances to the balancing time frame that need to be managed by Energinet closer to real time. This increases the risk of grid overloads and reduced frequency stability.

4.2 Cost-efficiency

In Energinet's view, it is not possible to ensure a cost-efficient transition to 30 min ID CZ GCT by 1 January 2026. The consequences for cost-efficiency relate both to impacts on Energinet's operational and development costs, which impact system tariffs, as well as socio-economic impacts. The consequences are detailed below.

Consequences for Energinet's operational and development costs (impacting system tariffs)

Energinet's operational and development costs are impacted by the following:

- **Higher risk of the need to activate the costliest remedial actions** (e.g. load shedding/brownouts, preventive RES-curtailment) to maintain safe system operations, rather than applying market tools (energy activation in balancing markets), especially during critical operational situations.
- **Increased costs for local congestion management**, because of inefficient allocation of resources to manage local grid congestion (e.g. due to conservative approach to how much mFRR capacity is held back from MARI to solve local grid congestions) or because either too many assets with temporary limited grid access or too few are restricted, resulting from the combination of congestion management processes not being automated and less time available to manage congestions with manual processes based on the latest market results.
- **Increased costs for ancillary services**, because of a shift towards greater aFRR needs, which is typically costlier than mFRR, because of limited possibility to make direct activations on the MARI platform shortly after ID CZ GCT, and because of risk of lower liquidity and less efficient allocation of balancing resources on MARI-platform if TSOs are conservative in their approach to how much mFRR capacity is withheld from the platform for congestion management purposes.
- **Inefficient allocation of resources in Energinet's implementation and development of markets and operations**, because Energinet may need to reprioritise IT resources from ongoing and upcoming critical implementation projects (e.g. mFRR EAM, 15 min MTU, and MARI) as well as from correcting and replacing minimum viable IT-solutions. Such reprioritisation would entail transaction costs as well as a need to reorganise existing implementations. Even with significant reorganisation of resources, there is no guarantee that Energinet would be able to develop, build and test the necessary IT-solutions in time for 1 January 2026.

These consequences negatively impact Energinet's system tariffs, which indirectly leads to higher electricity prices for consumers.

Socio-economic consequences

There would also be socio-economic consequences for the following reasons:

- **Socio-economic loss due to load-shedding (VOLL)**, because implementation of 30 min ID CZ GCT increases the risk of load shedding/brownouts to ensure safe system operations, especially in critical situations with large imbalances or local grid congestions.
- **Increased costs for local congestion management**, if higher priced bids are selected instead of less costly bids, e.g. due to insufficient knowledge of the location and extent of congestion in the grid or the availability of assets that can remedy the congestion, or if more mFRR bids are retained from the AOF/MARI than are needed.
- **Higher electricity prices due to RES-curtailment**, e.g. when managing imbalances or local grid congestions, or because of restrictions on the availability of transmission capacity which means more costly assets are dispatched in the market clearing instead of the curtailed RES-assets.
- **Higher imbalance prices** due to inefficient balancing and increased need for aFRR, because of limitations to the use of manual operational processes to manage imbalances, or limitations on the use of direct activations on the MARI-platform shortly after ID CZ GCT, or due to inefficient allocation of resources for local congestion management. Higher imbalance prices will make imbalance settlement more costly for market participants, which especially is an issue for RES-assets that are inherently more susceptible to imbalances.

- **Less efficient market clearing and restrictions on cross-border trade**, because of increased risk that Energinet, in critical operational situations, may need to increase safety margins applied in capacity calculation processes to mitigate risks of overloads in case of grid congestion or IT failures. This limits trading opportunities for market participants.

These consequences may result in less efficient allocation of resources in both spot and balancing markets and thereby directly lead to higher electricity prices for consumers.

4.3 Renewable energy integration and carbon emissions

Implementation of 30 min ID CZ GCT 1 January 2026 may indirectly result in negative impacts on the integration of renewables and on carbon emissions, primarily driven by the identified consequences for security of supply and cost-efficiency.

The negative impacts on renewables integration are specifically driven by the following:

- Increased need for RES-curtailment in imbalance management
- Increased need for RES-curtailment in local congestion management
- Impaired market conditions for RES-integration due to higher imbalance prices
- Impaired market conditions for RES-integration due to the application of higher safety margins in capacity calculation

These effects may also have longer term implications for the integration of renewable energy, if they affect investment decisions.

5. Action plan

An action plan is provided as part of the derogation request describing the actions that Energinet considers necessary before being able to meet the requirements for the implementation of 30 min ID CZ GCT by January 1, 2029. The action plan consists of both existing initiatives that Energinet has already started, independently of the requirement for 30 min ID CZ GCT, as well as new initiatives. It should be emphasized that no decision has yet been made on these new initiatives, as this is planned to be done during 2025 as part of the work to prepare for the implementation of 30 min ID CZ GCT. The action plan is provided below.

Precondition for implementation of 30 min ID CZ GCT	Action	Timeline
Energinet must gain sufficient experience with system operations after go-live of recent, ongoing and upcoming large implementations, i.e. Flowbased market coupling in DA, PICASSO, mFRR EAM, 15 min MTU in ID and DA, and MARI.	Successful implementation of Nordic mFRR EAM in March 2025, 15 min MTU in ID in March 2025 and in DA in June 2025, and of MARI no earlier than 2026.	Now and until 2027.
The challenges with direct activations on the MARI-platform must be solved.	A solution must be found in the MARI-project.	No later than when Energinet joins MARI no earlier than 2026.
Energinet must have corrected and replaced existing minimum viable IT-solutions that have been decided as part of ongoing and upcoming market implementation projects.	IT resources are prioritised as they become available following go-lives.	During 2025 and 2026.
Need for more robust IT solutions through a consolidation of IT systems and improvement of back-up/fall-back solutions in case of IT failures, because system operations will be more vulnerable to IT failures after transitioning to especially 15 min MTU and automatic balancing (mFRR EAM), but also to prepare for shorter time after ID CZ GCT.	<p>Energinet has established a dedicated implementation project, which during 2025 will identify and initiate new, necessary initiatives to be ready for implementation of 30 min ID CZ GCT by 2029.</p> <p>Prioritisation of initiatives to improve robustness of IT solutions will be within scope of this work.</p>	<p>Improvements are already being done within the ongoing implementation projects.</p> <p>Potential new initiatives are identified and initiated during 2025. New initiatives will be implemented in a continuous manner towards 2029.</p>

<p>Management of imbalances must be as automatic as possible – if manual processes/tools are to be applied (e.g. ASPs or loop flows), they need to be activated before ID CZ GCT. In any case, there is a need to gain more clarity on how manual processes are to be prioritised and used as part of system operations going forward.</p>	<p>Energinet has established a dedicated implementation project, which during 2025 will identify and initiate new, necessary initiatives to be ready for implementation of 30 min ID CZ GCT by 2029.</p> <p>Prioritisation of manual operational processes is clarified as part of this work.</p>	<p>Potential new initiatives are identified and initiated during 2025. New initiatives will be implemented in a continuous manner towards 2029.</p>
<p>Management of local grid congestion must be automated as far as possible.</p>	<p>The work with local grid congestion management is ongoing but more IT resources need to be prioritised to support the transition to (near) fully automated processes.</p>	<p>The necessary IT resources have not yet been prioritised. For the time being, there is no timeline that aims for having developed, built and tested an automatic process for grid congestion management by 2029.</p>
<p>Grid congestion should – as far as possible – be managed structurally, or if not, as early in operations as possible to mitigate risks for system operations and security of supply.</p>	<p>Energinet has established a dedicated implementation project, which during 2025 will identify and initiate new, necessary initiatives to be ready for implementation of 30 min ID CZ GCT by 2029.</p> <p>Besides already decided grid reinforcements, potential new structural initiatives to manage congestions may be within the scope of this work.</p>	<p>New 400 kV-line on the West Coast of Jutland is expected done during 2027.</p> <p>Grid expansion on Sydsjælland and Lolland-Falster is already ongoing.</p> <p>Challenges with local grid congestion is expected to persist with increasing levels of RES buildout.</p>

		Further, potential structural market initiatives will be identified during 2025. As these are structural measures, it is very uncertain whether these are implemented by 2029.
Market participants need to have sufficient/strengthened incentives for self-balancing to mitigate large imbalances being passed on to Energinet's control centre to be managed close to real time.	<p>1) New market design for imbalance pricing, so the imbalance price also reflects the price of aFRR (instead of only mFRR as today).</p> <p>2) The imbalance fee is changed, so it reflects the increased costs for reserves due to higher imbalances.</p>	<p>1) Go-live 18 March 2025.</p> <p>2) Stepwise implementation subject to DUR approval (no earlier than 2026).</p>
Data quality and the accuracy of market participants' generation schedules must be strengthened to support the ability of Energinet's system operations to automatically manage imbalances and local grid congestions based on forecasts.	Energinet is continuously in dialogue with market participants to ensure greater consistency between their submitted generation schedules and actual operations.	The continuous efforts are expected to result in ongoing improvements. These efforts are expected to continue also after 2029.
It must be possible for Energinet's control centre to plan further ahead than 15 minutes for the sake of safe system operations. This requires higher degree of process automation and more accurate forecasting.	Energinet has established a dedicated implementation project, which during 2025 will identify and initiate new, necessary initiatives to be ready for implementation of 30 min ID CZ GCT by 2029. This work will also consider potential new initiatives that can extend the planning horizon in system operations.	Potential new initiatives are identified and initiated during 2025. New initiatives will be implemented in a continuous manner towards 2029.

6. Public consultation and involvement of stakeholders

Pursuant to article 12 in the CACM, the derogation request is subject to at least one month of public consultation. Energinet has therefore uploaded the derogation request (in Danish) along with this executive summary (in English) on Energinets consultation webpage. The public consultation lasted from 20 December 2024 until 31 January 2025.

During the consultation phase, Energinet received six consultation responses. Energinet has processed and addressed these in a dedicated consultation report, and smaller amendments to the derogation request have been implemented, before finally submitting the derogation request to the Danish Utility Regulator (DUR).