

Arenko Response: Ofgem Call for Input ESO

Performance

20 April 2023

About Arenko

Arenko is in pursuit of a zero-carbon grid worldwide and was established in 2014 to enhance the value of energy storage assets. We have been operating large scale battery assets since 2016 and now focus on developing our Software Platform 'Nimbus'. Arenko's Nimbus Platform is a product ecosystem that maximises portfolio performance at scale. Our modular products are founded on our experience controlling assets and provide proven technology that standardises, controls, dispatches and optimises energy storage assets.

We currently have over 210 MW of battery storage operational on our platform with a contracted pipeline in excess of 1.2 GW of stand-alone and co-located battery assets.

We would like to thank Ofgem for the opportunity to respond to this Call for Input. Arenko are eager to work with Ofgem and other industry stakeholders to help create efficient markets that prove affordable for customers, help improve grid management and contribute towards our Net Zero ambitions.

Role 1 – Control Centre Operations

System Operations

Arenko remain disappointed with ESO's operation of the Balancing Mechanism and high balancing costs incurred over the 2022-23 winter period. We believe these high costs could have been avoided had ESO accepted Bids and Offers from smaller more flexible generators, as opposed to larger units bidding at a higher price. Within our response to Role 2, we explain this in more detail and highlight concerns regarding consumer value and our UK Net Zero targets.

Transparency, data and forecasting

We welcome the weekly Operational Transparency Forum (OTF) run by ESO and are pleased to see this continue. Equally, the ESO Markets Forum Days and Roadshows have proved useful and have been well received.

The reliability and performance of the ESO's data portal API has been below expectations. We note that ESO continue to use this API for tasks which seem poorly suited, for example, being the only way to programmatically access Dynamic Service auction results. We believe ESO should be engaging with industry to seek feedback in this space to help improve the API.

Role 2 – Market Development and Transactions

Balancing Mechanism

An important issue for Arenko, which we have been engaging with ESO on for some time, is 'Market Efficiency' of the Balancing Mechanism (BM). We define 'Market Efficiency' as the percentage of times the asset received an instruction from ESO in the BM while in merit. By 'in-merit' we mean that the asset offered volume at a more attractive price compared to the most expensive action taken within that settlement period.

Arenko have undertaken some analysis using Bid Offer Data on the Elexon BMRS website to assess ESO's Market Efficiency rate. We have outlined some of our key findings over the past 6 months below and would be happy to provide a further explanation and access to our full analysis should that be useful.

Example:

Using the example of our 41MW asset, analysed over a six-month period (October 2022 – March 2023), we found the Market Efficiency for the bid side to be 6% (i.e., the asset was only instructed 6% of the time it was in merit) and the Market Efficiency for the offer side was 8%.

Whilst we are aware that ESO publishes reasons for skipping over assets in merit via the Dispatch Transparency dataset, we have found that this does not cover all instances. Aside from presenting poor consumer value, we also do not consider ESO's approach to be in line with its own ambitions to operate a Net Zero carbon electricity system in GB by 2025.

Whilst we understand that National Grid ESO experiences human and IT constraints within the ENCC itself, which could be the reason we are seeing such results, we strongly feel that this method of operating the BM is no longer fit for purpose. In order to keep pace with the development of low carbon, more flexible technologies, there is an urgent need to develop a digitalised solution to the BM. We do, however, appreciate the ongoing Balancing Review workstream as a means of addressing this, but we would welcome further attention and urgency given to seeking out an interim solution.

Ancillary Services

Frequency Response

Arenko is an active market participant in both Firm Frequency Response (FFR) and Dynamic Containment (DC) and more recently Dynamic Moderation (DM) and Dynamic Regulation (DR). We have been pleased with our engagement at a high level within ESO.

However, at a technical level, we have experienced serious struggles around communication with the ESO team. This has been a particular problem for us when developing the Ancillary Service Dispatch Platform (ASDP). Arenko experienced difficulties simply receiving responses from ESO regarding important questions requiring urgent answers. This means that we had large blockers when engaging in the testing aspect of developing the platform. This frustrating process at one stage, resulted in Arenko missing the deadline for the implementation of ASDP, which then prevented us from participating in the Dynamic Service markets. Ultimately engaging with the ESO team on developing ASDP led to a huge resource drain for Arenko and subsequently resulted in unnecessarily high internal costs. This impact was compounded by poor system designs as detailed below under 'data and digitisation of services'.

We also consider there to be poor transparency around Dynamic Service penalty methodology. Additionally, we experienced an instance involving a potential miscalculation, which resulted in us using significant resources to diagnose and resolve issues. This was exacerbated by very slow change processes within ESO and poor communications again on the issue.

Reserve Reform

We are looking forward to engaging with ESO on the new Reserve Products due to come online in Q4 of 2023 (Quick and Slow Reserve). We have had some confusion around the timelines for these products due to delays to consultations, so we would welcome clear communication from ESO around how timelines may change when things shift. This will help providers plan accordingly.

Industry Codes and Charging

ABSVD Provision

We would like to express disappointment with the standard of recent communications from ESO on Applicable Balancing Services Volume Data (ABSVD). For Arenko engineers working on ABSVD, it has been a very frustrating technical integration. The communications, preparedness, inconsistent and incomplete documentation has been below expectations. Additionally, from our experience, the technical and domain understanding of the ESO team has been poor. Subsequently, Arenko's own deployment has been repeatedly held up, which has in turn placed us in a difficult position with our clients.

Ultimately, we do not believe that the ABSVD integration process should be very complicated, and as such, it was problematic for us to spend several months pushing to complete this. Unfortunately, the lack of recognition or understanding of any of these problems from ESO sparks concerns about their ability to manage digital projects now or in future.

We have set out another example of very poor communications with ESO Settlement teams below:

We first contacted ESO settlements team on 8th September 2022 to make them aware of a time zone error and inconsistencies in the ABSVD data for our Bloxwich asset. We had noticed that ESO had made the mistake of mixing up local time and GMT. Unfortunately despite raising this early on, we had very slow responses from ESO, and no uptake on requests for a phone conversation with the relevant teams to discuss. Despite what should have been a relatively simple fix, we only received confirmation that this was going to be fixed on 31st Jan 2023 – following a direct escalation to a Senior manager at ESO. This five-month period of constantly chasing ESO resulted in a great deal of pressure being placed on us by our clients to fix the issue, as well as internal cash flow issues.

We believe ESO should implement industry Service Level Agreements (SLAs) and publish a clear escalation route so that incidents such as this one, do not happen again.

Data and Digitisation of Services

Firstly, and most importantly, Arenko feel that the technical integration of the new frequency response services has been poorly designed and has placed a burden on providers. There are at least eight different systems with which we need to interface for the DC, DM and DR markets, many of which duplicate information. Overall, operation is therefore poorly coordinated as systems are being run by different teams with different reliability, different documentation, and different change processes. Furthermore, we have had to deal with the mandatory implementation of features often

with little notice, poor feature design and limited rationale for their requirement and increasing digital complexity without a clear explanation of the value of system integration for the provider. All of this leads to significant lost resources, which we believe would be better used exploring important new energy system capabilities in collaboration with ESO that could for example work towards lowering consumer bills.

Secondly, another issue we wish to highlight is the lack of a robust API into the new frequency response services (i.e DC, DM and DR). We consider having to rely on the data portal for scheduling to be a poor solution. Early development of an API into CTS++ would have alleviated the burden on market participants and avoided missed delivery.

Finally, with regards to the new Enduring Auction Capabilities Platform, we note there has been some stakeholder engagement but none outlining how it will work in practice. The dates and timelines for the consultation (which was due in March) also have not been updated and clearly communicated to industry. It is important that ESO keeps the industry informed of any changes to timelines to allow participants to prepare and allocate resources accordingly.

Role 2 – System Insight, Planning and Network Development

Managing Connections

We welcome the ESO connection reforms that are underway to address the challenges to the connection application process. We appreciate the reasoning behind the two-step connection offer process.

However, we do question how useful the first step is in practice. As customers are not able to get a view on securities, they are liable for during the first step of a connection. As such, there would be very little reason to terminate an application after step one. There is also little clarity on the incurred cost for this initial first step of the grid connection application which makes new applications difficult to manage.

Additionally, we would also welcome transparency on the implementation process and timescales of the new Construction Planning Assumptions. We have been informed that a regional approach will be taken, but it would be helpful to understand which regions will be prioritised. From Arenko's perspective, the majority of our connections are for Battery Energy Storage Systems and the new modelling assumptions for batteries are likely going to impact our projects. Improved visibility on reform timescales would help us plan and manage these projects.

Providing Energy Insights

We very much welcome the increasing transparency on system planning via the Operational Transparency Forum (OTF), thematic newsletters, and recent publications from the past six months (Operability Strategy Report, Future Energy Scenarios, more frequent and detailed response requirement updates, Markets Roadmap and Net Zero Market reform page). However, it is not always clear how these many publications relate to each other so it can be challenging to build an understanding of the ESO's full plan and strategy.

We would like to thank Ofgem again for considering our response to this Call for Input. Should you have any questions or would like to reach out to me for further information on any of the details within this response, please do not hesitate to contact me using the details below.

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