

Stability Market Design

Expert Group 1

Date: 20/09/2022 Location: Teams
 Start: 10.00am End: 12.00pm

Participants

Attendee	Organisation	Attend/Regrets
Ed Farley (Chair)	National Grid ESO	Attend
Thomas Pownall	National Grid ESO	Attend
Amir Alikhanzadeh	National Grid ESO	Attend
Cian McLeavey-Reville	National Grid ESO	Attend
Kelly Larkin	National Grid ESO	Attend
Rob Lee	AFRY	Attend
Emilio Ambrogi	AFRY	Attend
Stephen Woodhouse	AFRY	Attend
John McShane	AFRY	Attend
Nicola Todd	National Grid Electricity Transmission	Attend
Iain McIntosh	Orsted	Attend
Cem Suleyman	Drax	Attend
Anser Shakoor	GE	Attend
Max Collins	Statkraft	Attend
Guy Nicholson	Statkraft	Regrets
James Hill	Ofgem	Attend
Priyanka Mohapatra	Scottish Power Renewables	Attend
Murdo McGhie	SSE Renewables	Attend
Mike Ryan	Constantine Energy Storage	Attend
John Costa	EDF Energy	Attend
Matthew Tucker	Welsh Power	Regrets

1.0 Introductions

1.1 Ed Farley (EF) provided attendees with a brief refresher on the scope and conclusions of Stability Market Design Phase 1.

1.1.1 An industry representative communicated how they valued the work undertaken by the ESO on stability given the importance of this service.

1.2 An industry representative questions the outcome and timeline for this project.

1.2.1 EF explained how that the ESO's focus on this stage is what a market would look like in theory before committing to timeframes for implementation. ESO referring to its RIIO-2 commitments to develop and initiate a plan to deliver a Stability Market by March'23.

1.3 An industry representative commented on how this projects scope may be influenced by wider market changes, such as the outcome of Review of Electricity Market Arrangements (REMA).

1.3.1 EF explained that we are fully aware of the potential implications of REMA and are, where possible, considering this during the market design workstream.

1.4 An industry representative asked for clarification on the role of SCL and inertia with other ESO work packages and the technical parameters of SCL given their importance for system strength. They followed this narrative by stating the need to know what will be included within 'stability' e.g., inertia and / or SCL, to ensure that the markets are designed around the characteristics of these services.

1.5 EF reassured representatives of the close and collaborative nature between this project, the Reactive Power project, and relevant Networks teams.

2.0 The Role of the Transmission Owner (TO)

2.1 AFRY provides an overview of the role of the TO, focused around two key exam questions:

What are they key considerations for the treatment of the TO assets?

What is the role of the TO in the long-term market?

2.2 AFRY shares that the TO's could play different, and indeed multiple roles, in providing Stability services being the network planning facilitator, competitive and/or last resort provider. AFRY then delve deeper into each of the possible roles for the TO.

Network planning facilitator - assess the feasibility connection points to be reserved for the awarded providers, providing view of the site location, available connection dates and infrastructure costs. Also, support technical feasibility assessments of proposed solutions.

Competitive provider - offer solutions within the new stability market through the two alternative regimes with two different participation options. Indirect participation reflects the counterfactual regime, as for the stability pathfinder; or direct participation which reflects the fully competitive regime, as for the Early Competition Plan.

Last Resort provider - as a last resort provider, ESO could request the commissioning of the required capability for stability directly to TOs, in case of commercial provision being insufficient to meet stability needs.

Please refer to slides which can be found alongside these minutes for more depth on the thinking on each of the participation models for the TOs (Slide 10).

2.3 AFRY set out the various advantages and disadvantages of the counterfactual route vs the fully competitive route. On balance, the proposed option is the counterfactual route.

2.4 AFRY also recognise some outstanding challenges with indirect competition of TO assets. This includes issues around preferential access to sites and/or information and a need for a consistent approach to defining residual value for each of TO and commercial assets.

2.5 An industry representative challenges that stability may not be required from an asset beyond the 10-year contract horizon, and therefore the need to ensure that the duration on the procurement exercise is correct for the end consumers.

2.6 An industry representative references the issues with the counterfactual approach during pathfinders. For example, do our assessments consider the value of the asset beyond a 10-year contract term? How will this approach be different to previous ones, and lead to solving this concern?

2.6.1 Stephen Woodhouse (SW) responds that insofar as possible residual value must be considered. For example, in the context of an asset given a 10-year contract aiming to cover complete CAPEX cost during this timescale but operating beyond 10 years. SW advises this will be looked at further during WP2.

2.6.2 The industry representative cites significant work which was done during the Pathfinder programmes which should be used as a starting point for future work. Industry are keen to see alternatives to options which have been previously worked through, without agreement.

2.6.3 ESO and AFRY agree unanimously that we should acknowledge previous work and conversations between ESO, TO's and wider industry stakeholders to inform future work on residual value and TO participation via a counterfactual route.

2.7 Two industry representatives comment that as the TOs are restricted by the technologies they can own and operate the counterfactual may become less valuable as a comparison.

2.8 A different industry representative flags that the route for TO participation and calculation of residual value is very important for commercial parties to secure funding from board members and should be carefully considered not to discourage commercial participation entirely.

2.9 Another industry representative questions the need for the TO counterfactual given that there have been three pathfinders to date and whether this is against the grain of a move towards direct participation.

2.10 An industry representative states that any residual benefit calculations need to be transparent to support designing an investment case. The industry representative also suggests that extending the contractual length from 10 years to 20+ years may be a solution.

2.10.1 SW acknowledges all previous points and agrees that contract durations could influence how significant residual value may be.

2.11 An industry representative asks how sufficient investment signals will be provided.

2.11.1 SW responds that the regular process of procurement would provide sufficient investment signals, for example through the long-term market, and this builds on previous Pathfinders which were ad-hoc.

2.12 An industry representative queries the investment signals for OEM's that this service will be required in the future. By sending this signal in the short term, it would enable OEMs to put plans in place to ensure that their technologies can provide this service. An industry representative argued that without clear direction, OEM's would not design their assets with the required functionality due to the associated costs and lack of route to market.

2.13 Another theme is raised around the role of the DNO assets which are currently precluded from Pathfinders.

2.13.1 SW and EF respond that whilst the ESO recognises the increasing importance that assets connected to this level of the network will play, this market is focused on securing stability at on the transmission level first and foremost. It is agreed that ESO and AFRY will take this away.

2.14 An industry representative suggests including some form of diversity metric which would ensure that the ESO does not become over reliant on a single source of stability services or technology type.

2.15 A question is raised around whether there is a risk that Ofgem may not sanction the build of an asset even if it was the winning counterfactual bid.

2.15.1 ESO agree this is a valid point and can since confirm that there is a process for ESO to request TO's to build something, within reason, which could add support for building successful TO solutions if required.

2.16 An industry representative reiterates previous comments around DNO participation and the possibility for mandating the provision of Stability services. We should be looking to prevent the impacts of significant investment in grid-following wind farms and therefore causing an unstable grid. A

3.0 Global vs Selective Eligibility

3.1 AFRY presents their latest thoughts on the question on Global vs Selective eligibility within these future markets and whether ESO should pay for gross or net procurement.

3.2 AFRY advise the current preferred model is to pay for the additionalities, i.e., to reward those who have taken an action to provide a service, as opposed to paying for a service which was already present on the network and does not require an additional action to be taken.

The two options and an assessment of the relative advantages and disadvantages can be viewed in the slide pack.

3.3 SW acknowledges that the proposed solution today, selective eligibility, may transition towards global inclusion or a hybrid approach in the future with providers being paid even if they were already supplying stability services.

3.4 An industry representative explains that some technologies, such as synchronous compensators, may need an overhaul every ~10 years which is costly. Unless these assets are eligible to secure a long-term contract, it would be challenging to seek board-level investment for annual contracts through a Y-1 market in which every 10 years a large capex investment is required.

3.4.1 SW responds how the eligibility criteria was designed to ensure that once an asset pays of their initial CAPEX investment over a 10-year period, so the customer would not be paying the full capital of an asset several times via long term contract.

3.4.2 SW acknowledge that the eligibility criteria may need to be fine-tuned to ensure that incremental upgrades and how these are funded are considered.

3.5 Another industry representative questions how payments for incremental upgrades could be included. An example is given for a particular plant which has recently undergone maintenance and refurbishment but did not install grid-forming technology to deliver Stability services due to the lack of market signals.

3.5.1 SW responds in turn that at present the stability market is being designed, and therefore the ESO is unable to provide these market signals unless a bespoke contract is created.

3.6 A fellow industry representative questioned whether the eligibility requirements could be reduced, and instead rely upon a diversity metric.

3.6.1 SW responds that this will be considered moving forward.

3.7 A question is raised on the implications of not providing the intended services.

3.7.1 SW responds that this will be considered moving forward.

3.8 The discussion then focused on the cost savings between the two options being considered, with the industry representative asking for more detail on the ESO's assumptions behind their preference of selective eligibility.

3.9 An industry representative suggests that with the range of technologies that can provide stability services, the question on selective or global payments should be evidenced by a Cost Benefit Analysis (CBA), to weigh each option up on how they save consumers money when providing a system critical parameter. The representative continues to discuss how selective eligibility would not amount to proper market design and may lead to the wrong outcomes, unless the ESO is able to factually evidence that by adopting a selective approach will save consumers money by precluding access by a certain plant or procuring via the balancing mechanism.

3.9.1 SW responds that an integer modelling is a resource intensive tasks and has the risk of the outcomes not being clear cut and at present they are not committing to doing this modelling but will consider this as a future option.

3.9.2 EF responds to a comment made on a CBA being undertaken by the ESO, clarifying that this was part of the Phase 1 Stability Market Design project with the focus on understanding the launching of short/long term markets compared to continued procurement of stability services via the BM.

3.10 An industry representative suggests the selective approach will lead to a 'messy' market design, which could result in inefficient market signals which might deter investment and increase uncertainties, leading to the possibility of more plant closures. All of which will reduce the operability of the ESO markets from a market participant perspective. The representative proposes the selective approach would not provide an efficient market design nor contribute to a single market signal and will lead to unintended consequences as a result, such as the ESO not having the service providers on the network to provide the system critical services when required.

3.10.1 SW responds with his agreement on how a good market design would pay universally but goes on to explain that the deviations here are due to this being a procurement exercise, not just the market design.

3.10.2 SW acknowledges that there this could get messy, and there is the need to consider what compromises could be made to simplify the procurement process.

3.11 An industry representative refers to the CfD as a mechanism to provide stability services, at a price determined by their strike price.

3.11.1 SW counters that as the CfD is a payment against your energy revenue and system services are not included within this price, this could provide windfall profits of a high-cost magnitude and may also influence the price that the asset bids into other markets.

3.11.2 The industry representatives acknowledges that the CfD payment may not encompass stability services and will check. The representative follows this but stating that as the CfD in its current form does not provide stability services further underpins the importance of an efficient electricity market design.

3.12 Another industry representative concludes by suggesting there could be a compromise by limiting the amount of payments made to each provider type / technology type.

3.13 EF concludes the meeting by putting record thanks to all attendees for contributing to an insightful discussion and raising some important points. Minutes have been recorded and will be circulated to attendees ahead of anonymous publication on ESO Stability Market Design webpages. ESO welcome any written feedback or follow-up questions to today's session and are keen to arrange a second session with attendees in due course.

3.14 Meeting ends.