nationalgridESO

ESO Technology Advisory Council

TAC-3

Date:	04/06/2021	**Location:**	Virtual
Start:	09:00	**End:**	12:30

The feedback captured during the meeting on the Axis collaboration tool can be found in the accompanying spreadsheet. This document summarises the feedback received verbally and via the Chat function.

All material from the meeting can be found on the ESO Technology Advisory Council MS Teams site: https://nationalgridplc.sharepoint.com/sites/GRP-UK-National-Control-ESO-Technology-Advisory-Council

Participants

Attendee	Organisation
Vernon Everitt (Chair)	Transport for London
Randolph Brazier	Energy Networks Association
Graham Campbell	Scottish Power Energy Networks
Chris Dent	University of Edinburgh
Kate Garth	RWE Renewables
Andy Hadland	Arenko
Jo-Jo Hubbard	Electron
Alastair Martin	Flexitricity
Simon Pearson	Energy Systems Catapult
Emma Pinchbeck	Energy UK
Alvaro Sanchez Miralles	STEMY Energy
Melissa Stark	Accenture
David Sykes	Octopus Energy
Anastasia Vaia	BP
Ulrika Wising	Shell Renewables and Energy Solutions
Chris Kimmett	Reactive Technologies
Peter Stanley	Elexon
Fred Drewitt	Limejump
Sonia Lalli (Facilitator)	Accenture

David Bowman	ESO
Norma Dove-Edwin	ESO
Colm Murphy	ESO
Sreekumar Menon	ESO

For specific agenda items

Attendee	Organisation
Joseph Donohoe	ESO
David Preston	ESO

Apologies

Attendee	Organisation
Judith Ward	Sustainability First
Teodora Kaneva	TechUK
James Houlton	Amazon Web Services
Claudia Centazzo	Smith Institute

Agenda

#	
1.	Welcome and introductions
2.	Minutes of last meeting and matters arising
3.	Feedback from last meeting
4.	Digital market enablement Single market platform
5.	Balancing Programme
6.	Ways of working
7.	Next meeting and calendar
8.	AOB

Discussion and details

#	Topics discussed
1.	**Welcome and introductions**

- The chair welcomed everyone to the meeting.
- New member (Fred Drewitt) introduced himself to the group. Fred will replace Dennis Leach as the Limejump representative

2.	**Minutes of last meeting and matters arising**

- The chair noted that the minutes of the last meeting were agreed by circulation had been published on the ESO website.
- The feedback from the meeting has also been published on the ESO website.
- No matters arising from the previous meeting.

3.	**Feedback from the last Meeting**

- David Bowman summarised how the ESO had used feedback from the previous meeting, which was the main considerations for the Balancing and Network Control programmes.
- The feedback has been used to shape the proposed subgroups. There is a mapping between the feedback and the proposed subgroups (see item 6).
- On *Technology & Operations Collaboration* and *Collaborative Transformation*:
  - The ESO are also starting the blueprint and foundation phases for these programmes and have launched a ways of working review. The feedback will be used to inform the direction of these.
  - The ESO has moved from project focus to a product model to deliver products, features and services that add value to our customers. The outcome is to have end-to-end customer journey and multi-disciplinary teams that deliver in an Agile way.
- On *start-up mentality*:
  - The ESO will be running hack-a-future events to make sure control rooms and tools and processes are fit for the future.
  - The ESO will be embracing design thinking. The ESO needs to think differently around how it drives the zero-carbon agenda. Key to this is culture and behaviour: always asking "why?", having a sense of purpose and always considering who is the customer at the end of it.
  - Some of the key aspirations addressed by this feedback are being trialled in Future of Balancing Programme.

  Q&A
  - Q: Is the feedback being considered purely from ESO's current role and model or is it thinking wider than that in terms of future modes of operation?
  - A: We are considering the feedback in terms of future roles and modes of operation.

4.	**Digital market enablement and single market platform**

- Colm Murphy (Head of Electricity Market Change) introduced himself and said that the Market Change team's vision is to become the best buyer for the ESO. They aim to bring the best products and services which help us balance the electricity system in the most efficient and clean way.
- Joseph Donohoe (Product Manager for Digital Engagement Platform) and David Preston (Product Manager for Single Markets Platform) introduced themselves.
- David Preston went through the session objectives and the pre-read materials. Following that he explained how the Digital Engagement Platform (DEP) and Single Markets Platform (SMP) fit into the ESO's RIIO-2 strategic ambition.
- The intention, scope, destination and design principles for the DEP and SMP were discussed.

Feedback on intention, scope, destination and design principles for DEP and SMP

- Finding data to answer customers queries has been difficult, so the website needs to be improved. It also seems odd to have the split between ESO.com and DEP for provision of information and data: at a minimum, you are likely to have replication problems with conflicting information/data at a point in time. A single platform might make a little more sense, with some services/pages requiring login if the data is deemed more sensitive.

- ESO could consider three types of data: public static (information, service descriptions, webinar recordings), public dynamic (auction results, frequency, network outages, data portal information) and person (contracts, contract management, settlement, query management). The first two sets could be on the DEP and the third on the SMP.

- There should be a design principle to include collaboration and coordination with other platforms.

- Use APIs. Good examples include: **Transport for London** who have put all live travel information across all services and their journey planner into a single API; **Salesforce** where the user interface layer is built on the same APIs offered to customers, so you have equitable feature access between "basic" users coming through a browser interface and more advanced users who are plugging in direct via the API.

- A light-touch focus on use cases can help spur innovation. The ESO should not assume what the use cases for the information it provides will be.

The feedback captured on the Axis collaboration tool can be found in the accompanying spreadsheet. The notes here are a summary of the discussion during this section.

I am developing an asset

- When building the business case for new assets (eg batteries) it is increasingly important to deeply understand how the asset being created might be used in balancing services, including reserve, response and any associated subsidies such as the capacity market and contracts for differences.

- The ESO generally does well incorporating new assets but the challenge is new business models. The user journey for new business models (eg aggregator v wind producer) is likely to be different even if they have the same question (I want to participate in a market)

  - The ESO is creating scenarios (eg "I am a battery owner, I want to build a business case") that we are happy to discuss further to help develop the to-be process and understand the technology enablers.

  - The ESO does not intend to provide advice on future potential returns but focus on what the opportunities are.

Visibility of capacity constraints

- Other markets do this more transparently - **New Zealand** have a good approach. Current ESO approach feels centralised with the ESO deciding what happens to information it receives. Having a more transparent approach like having all the data in one place for easy availability and letting the asset owners decide what to do with it can lead to novel solutions being developed.

Carbon tracking in contracts

- Availability and utilisation should be tracked in terms of their potential and actual emissions. Without this, regulators, government and third parties will not be able to measure what is happening correctly. The ESO should oblige it and allow parties to stop participating in markets if they do not wish to disclosure their carbon emissions, which seems unlikely. The ESO is the only body in the industry that has this data available.

- Some markets publish data on, for example, how often certain types of assets (eg gas plants, batteries) are being used. This is important for the ESO's zero-carbon operation ambition and the need to bring renewables into reserve, response and restoration, and also for investors.

- The ESO will need to track emissions to prove the carbon-free operation abilty by 2025 ambition.

- More data availability on carbon output and dispatch can help drive business cases and policy to support funding.
- The ESO does not have to be responsive to policy but could help need it. Policy makers would be unlikely to put specific policies in place to reduce the carbon content of balancing services unless they know the existing levels of carbon. Large coal would not have closed if the carbon content was unknown and the ESO had flagged it was necessary for system stability.
- None of this is incompatible with the ESO's current obligations around technology neutrality, which should remain unchanged.
  - The ESO has licence obligations to be technology neutral in the provision of balancing services.
  - The ESO's ambition is to be an enabler of zero-carbon operation – without open and liquid markets with reduced barriers to entry this will not be achieved.

All-encompassing / ESO and DSO working

- Smart Systems and Flexibility Plan part 2 is due for consultation this year. How does ESO work feed into this and other areas like ENA Open Networks?
  - Our markets teams are working with teams linked into Open Networks who are discussing procurement and service primacy. Given the exact service designs and procurement timetables are not yet know we are trying to create a platform and environment that is as flexible as possible.
  - We know that there are lots of areas that the DEP and SMP will need to align with – regional development programmes (RDPs), transmission-distribution analysis and data sharing, Distribution FES.

Other case studies to consider

- **REMIT reporting tool** created by the ESO was very useful. The ESO built it because they needed it, and others, both small and large, started using because they liked it. Building a useful tool that is easy to use will mean that people navigate naturally to it.
- It is important to look at case studies outside the energy sector. Energy is not the first sector in the economy to digitalise – areas like **telecoms** have gone first and are a good comparator in terms of the size, level of complexity and rate of change.
- **Open banking** is a good case study to consider as it is also a regulated industry. Larger banks were forced to participate which led to smaller banks taking part too. A key learning is that it used readily available technology and a well-trodden path meaning that the technology solution was easy for other companies to implement. There is readily available information that is applicable to energy including how APIs were structured, data frameworks and authentication standards. Given the nature of banking it has had a lot of rigour applied to it, so the technology and processes are robust. Some parts may be less applicable to energy – there is more complexity and greater challenges with data accuracy in energy, for example.
- It is worth a look at the **Modernising Energy Data (MED) programme** initiatives relating to data classification and data triage to assess the level of openness. The MED programme is also looking to incorporate learnings to energy from open banking. This is evolving work in progress on energy system wide data catalogue and associated search facilities. Also, the **Energy Data Visibility** project that is following initial work by the Office for National Statistics.
- It is not clear that the DEP does. There is a danger the ESO tries to build some that is all encompassing but that does not anything particularly well. Some of the user stories presented seem niche, for example the academic researcher wanting to get data compared to an aggregator interacting with the DEP or SMP daily. When the **Kraken** platform was built, it was not designed to do everything – instead the aim was to build a good consumer experience for signing up to an energy retailer which then had other features (like billing) added. Key to this is a strong data model sitting underneath the tool and building extensible modules on top for different use cases.

Other considerations

- Be clear what the DEP and SMP are and devolve responsibility across industry as necessary. Important not to try and build something that is all encompassing and that does not do anything particularly well.

- Human interaction will continue to be important due to the complexity of the energy industry. Great platforms enable specialists in a company to do end-to-end customer journey management. The ESO needs people, and the associated technology, that guide users through the whole process.

- Aggregators rely on information from the ESO to pass on to their customers. They spend a lot of time untangling confusion and misapprehension. Human interaction is important in this.

- Break it down and solve one problem at a time. Concept of transactive energy - distilling down to "atoms" – location, time, price, kilowatt hour etc which can they be packaged up into a service.

- Need to consider language and non-expert users. As the industry moves towards having thousands of actors, including individuals, information needs to be put simply.

5. Balancing Programme

- [This section was deferred until a later meeting]

6. Ways of Working

- David Bowman summarised the working groups proposal which is based on the feedback received from TAC-2. The ESO proposed four working group to discuss these topics in detail: 1) an expanded regional development programme (RDP) joint forum (already existing), 2) technology transformation, 3) control room of the future, 4) digital and data and ways of working

- There was agreement that the working groups proposed were broadly appropriate:

- On technology transformation, the equipment manufacturers should be represented, for example developers of wind farms and EV charge points.

- The digital and data group could be covered by the existing ENA Data Working Group. Relevant representatives will discuss this offline. It should include interoperability, data triage and digitalisation across gas and electricity.

- The representatives on the sub-groups need not be the same as those on the (main) TAC. Members can nominate themselves or representatives for subgroups as they see fit.

- More detail should be provided on the purpose and direction of the working groups. It might be worth giving each group, or asking each group, to come up with a short-term target.

7. Next Meeting and Calendar

- The next meeting is scheduled for 3 September, 09:00 – 12:30.

- There was a request on whether the meetings could change to the afternoon. The ESO will poll members on this.

8. AOB

- There was no AOB.

The chair closed the meeting by thanking members for their participation.

Decision Log

Note – this document contains current decisions and a rolling history of decisions. The complete log may be found in:

https://nationalgridplc.sharepoint.com/sites/GRP-UK-National-Control-ESO-Technology-Advisory-Council

Decisions: Made at last meeting

ID	Description	Owner	Date
1	Minutes to be held under the Chatham House Rule and anonymised minutes published	All	ERSG-1
2	Template for ESO papers, as presented at ERSG-1	ESO	ERSG-1
3	Format for discussion of ESO papers, as discussed at ERSG-1	All	ERSG-1
4	Action Log, as presented at ERSG-1	ESO	ERSG-1

Action Item Log

Note – this document contains in-progress items and a rolling history of completed items. The complete log may be found on the ESO Technology Advisory Council MS Teams site:

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Action items: In progress and completed since last meeting

ID	Description	Owner	Due	Status	Date raised
1	Provide comments on Terms of Reference	All	15/01/2021	Closed	ERSG-1
2	Provide comments on the non-disclosure agreement and conflicts of business interest forms	All	15/01/2021	Closed	ERSG-1
3	Confirm arrangements for signing NDA and COI forms	ESO	15/01/2021	Closed	ERSG-1
4	Provide guidance on the process for reviewing and scrutinising material	ESO	15/01/2021	Closed	ERSG-1
5	Create an annual calendar of meeting dates	ESO	ERSG-2	Closed	ERSG-1
6	Provide a photo and short biography suitable for the ESO website	All	15/01/2021	Closed	ERSG-1