

Use Cases Advisory Group

Meeting 7 minutes

Date: 15/03/2024 **Location:** Virtual
Start: 10:00 **End:** 11:15

Participants

Attendee	Organisation
Corinna Jones	National Gas
Dr Hilary Williams	Energy Systems Catapult
Peter Philip	Scotia Gas Networks
Dr Robyn Lucas	Modo Energy
Sarah Rigby	Scottish and Southern Electricity Networks
Simon Baxter	National Grid Ventures
Simon Evans (Chair)	ESO
Dozie Nnabuife (Observer)	ESO
Joanna Webb (Observer)	ESO
Kaviya Sivaraman (Observer)	ESO
Precious Akponah (Observer)	ESO

Apologies

Attendee	Organisation
Professor Jim Hall (Chair)	University of Oxford
Dan Monzani	Aurora Energy Research
James Edwards-Tombs (Observer)	ESO

Agenda

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1. **Welcome, introductions and apologies for absence**
 2. **Minutes of last meeting**
 3. **Conflicts of interest review**
 4. **Update on the ESO Virtual Energy System programme and use cases**
 5. **Introduction and purpose of session**
 6. **MVP and roadmap**
 7. **Use case driven approach, time horizons and overarching whole system use cases**
 8. **Final reflections**
 9. **AOB and next meeting**
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Discussion and details

Topics discussed

1. **Welcome, introductions and apologies for absence**

- The Chair welcomed everyone to the meeting and introduced Simon Baxter, who recently joined the advisory group.
 - The Technical Secretary gave the apologies for absence:
 - Professor Jim Hall – University of Oxford
 - Dan Monzani – Aurora Energy Research
 - James Edwards-Tombs – ESO
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2. **Minutes of the last meeting**

- The minutes of the previous advisory group meeting on 19/01/24 were approved as an accurate record.
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3. **Conflicts of interest review**

- No conflicts of interest were declared.
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4. **Update on the ESO Virtual Energy System programme and use cases**

- The FSO's name has been announced as the National Energy System Operator (NESO) and further details have been confirmed on the NESO's new roles.
 - The ESO has responded to Ofgem's RII0-3 consultation, which included the NESO's potential digitalisation roles.
 - Work is continuing with the National Digital Twin Programme technical alignment and interoperability.
 - The Virtual Energy System programme is transitioning towards the pilot and MVP phases.
 - Work is progressing on the next phase of the key principles including: integrating with data sharing infrastructure; security scoping; operating environment and stakeholder support.
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- The other two advisory groups have been focusing on a ten-step technical use journey, describing the interactions at each step of the user journey, illustrating data flows and interactions between users and data sharing infrastructure throughout the cycle from registration through to sharing data.
- Updates on the use case projects:
 - CrowdFlex is focusing on the details of the models and trials, which are to commence in May.
 - Powering Wales Renewably will finishing its six months Alpha phase shortly and the plan for the Beta phase and application is being discussed.
 - The Advanced Dispatch Optimiser is progressing through a detailed internal strategic review.

5. Introduction and purpose of session

- The ESO summarised the briefing pack, the aims of the meeting and the input the ESO would like from the advisory group:
 - The updated programme roadmap, after feedback from the advisory groups and other stakeholders including the government and regulator. The future MVP timelines, phases and measures for success.
 - Use case driven approach to the data sharing infrastructure development with the pilot and MVP.
 - The overarching whole system use cases being defined and prioritised, looking at the time horizons, projects and BAU activities.

6. MVP and roadmap

- The ESO gave an overview of the updated programme roadmap and gave further detail to the pilot use case of outage planning and the MVP use case of strategic planning.

Discussion

- The group were supportive of progressing to this next stage of the programme's development.
- It was suggested that the pilot and MVP use cases are quite similar and that the data sharing infrastructure developed needs to be suitable for different use cases in the future. The ESO confirmed that the architecture is being designed so that it can be used for the full range of identified future use cases.
- The question was raised about how different types, languages and formats of data from different sources are going to be inputted into the models. The ESO agreed that part of the upcoming work is to standardise the data into a data sharing infrastructure format and confirmed that the data to be used for the pilot and MVP is already shared between organisations.
- Discussions took place about the scope of the outage planning pilot and it was confirmed that it is a subset of outage planning and the detail is currently in development and will be shared as it progresses.

7. Use case driven approach, time horizons and overarching whole system use cases

Reflection points

- ***Do these time horizons help with categorising use cases?***
- ***Are you aware of any standard definitions for the time horizons?***

Discussion

- It was suggested that as well as real-time balancing it might be relevant to include within gate close as there is a difference between 4 hours out and half an hour out.

Reflection points

- **Are these definitions clear?**
- **Which energy sector personas are privileged or overlooked in the definitions?**
- **Are there further examples of projects and processes?**
- **Are you aware of any standard definitions for the time horizons?**

Discussion

- It was suggested that some of the whole energy system overarching use cases are entities (e.g., energy storage generation and interconnectors) rather than use cases.
- When looking at new solutions or how the networks operate it was noted that other considerations such as protection system modelling response and fault level simulation should to be taken into account, and increasingly so if engaging with assets from other organisations to provide services to the network. It was noted that it is possible that some of these considerations will come under Hazard Event and Threat Simulation, but these are areas to be developed further.
- For the Planning Whole Energy System use case it was suggested that hydrogen and transport could be added to the definition, and, for consistency, the word 'system' could be added to 'Planning future transmission' and 'Planning future distribution' in the high-level use case column. Possibly predicting localised energy demand should be a separate high-level use case and it could incorporate assessment of the impact of market-based solutions such as flexibility.
- For the Demand Side Management use case it was suggested that in the description it could refer to both reducing demand and smoothing out demand, because both are distinct and important and can improve grid reliability and efficiency. Also, it was suggested to include industrial and commercial consumers. Reducing the need for network updates could be added to the last sentence, as this contributes to a more sustainable and cost-effective system. It was requested that it is changed to reducing overall 'peak' demand also in the last sentence as this is one of the aims. It was suggested that prosumers are an entity rather than a use case.
- Under Real and Near-Time Operations it was suggested that ancillary services to frequency management could be added to the BAU projects column as they are real-time (but procured a day ahead). Also, active network management could be an associated BAU project. The definition on this slide could be expanded to show that these operations are essential day-to-day operations and possibly not include network investments as that is longer-term planning.

Reflection point

- **Have we missed out on any high-level use cases here?**

Discussion

- Under the Linking Systems and Markets use case it was suggested that interconnectors could be included. Locational pricing and time of use tariffs were suggested for high-level use cases. Also, it might be useful to look at the further head time horizons on the high-level use cases as some may provide different price signals, that could potentially support planning and decision making.
 - Continuing on Linking Systems and Markets, under Innovation/BAU projects an advisory group member identified an innovation project (Resilience as a Service – RaaS) looking at developing a solution for localised network resilience through a market-based solution, procuring this service from a third party, who can also participate in other flexibility markets and provide other services to the grid for the local energy system. It could potentially be a resilience use case too.
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- Under the Carbon Accounting use case, it was suggested that real-time should be added to the time horizons, for within the balancing mechanism, and carbon markets could be added to high-level use cases. It was suggested that the future Carbon Border Adjustment Mechanism (CBAM) regulations will affect carbon accounting.

Reflection point

- ***Do the high-level use cases of the hazard event and threat simulation, shown in the middle column of the graphic, cover the wide range of high-level use cases?***

Discussion

- In the first paragraph of the definition, it was noted that 'characterised by' might not be the right phrase and it could be 'experiencing' or 'subject to'. The first sentence could show that 'changes are bringing new risks and uncertainty'. The examples in this first sentence could be more consistent as they are risks, effects, new considerations etc.
- In the second paragraph of the definition, it was suggested that it could be changed to 'identify and assess' the system vulnerabilities.
- It was noted that system stability could be its own use case on this slide.

Reflection point

- ***Are you aware of any high-level use cases for Multi Pathway Resilience?***

Discussion

- The Resilience as a Service (RaaS) project mentioned previously could be relevant to the Multi Pathway Resilience use case.

Reflection point

- ***This use case is miscellaneous and electricity specific. Are there similar miscellaneous use cases that fit into this category that we have missed out for other energy vectors?***

Discussion

- It was noted that power modelling could include a variety of new generation techniques, energy storage and consumption equipment, interconnectors, ancillary services, market, customer and regulatory issues. It was suggested that more real-time demand forecasting could be incorporated.
- It was suggested that black start could be added to the BAU projects column, and the protection system modelling response and fault level simulation mentioned earlier could be a high-level use case.

Recommendations

- The ESO to review and incorporate the above suggestions into the whole energy system overarching uses cases.

8. Final reflections

- The Chair thanked the group for their attendance and valuable contributions.

9. AOB and next meeting

- The date and time of the next advisory group meeting was confirmed as Friday 17th May 10am-12noon
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