

## Use Cases Advisory Group

### Meeting 4 minutes

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<b>Date:</b> 15/09/2023	<b>Location:</b> Virtual
<b>Start:</b> 10:00	<b>End:</b> 12:00

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### Participants

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<b>Attendee</b>	<b>Organisation</b>
Professor Jim Hall (Chair)	University of Oxford
Corinna Jones	National Gas
David Evans	Energy Systems Catapult
Nicholas Watson	National Grid Ventures
Sarah Rigby	Scottish and Southern Electricity Networks
Joanna Webb (Technical Secretary)	ESO
James Edwards-Tombs (Observer)	ESO
Dozie Nnabuife (Observer)	ESO
Precious Akponah (Observer)	ESO

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### Apologies

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<b>Attendee</b>	<b>Organisation</b>
Dan Monzani	Aurora Energy Research
Dr Hilary Williams	Energy Systems Catapult
Peter Philip	Scotia Gas Networks

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## Agenda

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

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  2. **Minutes of last meeting**

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  3. **Conflicts of interest review**

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  4. **Update on ESO Virtual Energy System programme, use cases and advisory groups**

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  5. **Introduction and mission statement**

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  6. **Progress reporting and monitoring**

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  7. **CrowdFlex: a deep dive and Advanced Dispatch Optimiser**

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  8. **Final reflections**

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  9. **AOB and next meeting**

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## Discussion and details

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### # Topics discussed

1. **Welcome, introductions and apologies for absence**
    - The Chair welcomed everyone to the meeting and introduced the new attendees.
    - The Technical Secretary gave the apologies for absence:
      - Dan Monzani – Aurora Energy Research (written input provided)
      - Dr Hilary Williams – Energy Systems Catapult
      - Peter Philip – Scotia Gas Networks

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  2. **Minutes of the last meeting**
    - The minutes of the previous advisory group meeting on 21/07/23 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 ESO Virtual Energy System programme, use cases and advisory groups**
    - ESO gave an update on the Virtual Energy System programme including:
      - The recently announced six priority factors for implementing the Virtual Energy System (circulated to the advisory group in August).
      - Advisory Group Members were invited to attend the industry webinar to discuss the six principles in more detail. The webinar is called ‘VirtualES – How will it be built?’
      - The Data and Technology Advisory Group has been focusing on the data sharing infrastructure for different use cases.
      - The People and Process Advisory Group has been focusing on the governance model.
      - The progress on the Energy Bill and transition to the Future System Operator (FSO).
      - The ESO has been working on upskilling colleagues for its new FSO roles, including Gas.
      - With the new responsibilities as the FSO, there are plans to invite some new advisory group members to join the group in battery storage and Carbon Capture, Utilisation and Storage (CCUS), and Hydrogen was also suggested in the meeting.
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- The Virtual Energy System is presenting on the programme and use case projects at several conferences in the near future.
- The ESO is in the process of the next round of Strategic Innovation Fund (SIF) proposals.

## 5. Introduction and mission statement

- The ESO explained the need to review the Virtual Energy System mission statement, to make sure there is consistency in stakeholder engagements, objectives and activities, to help define the way the programme's decisions are made, its impact and how it will be governed. The mission statement also affects how the programme aligns with other digital twin projects in energy and other industries.
- Five mission statements were proposed to the group for feedback, including the current statement.

### Reflection points

1. ***Do these statements reflect the programme?***
2. ***To what extent do you agree they reflect the programme?***
3. ***Please share your preference or suggestion if none of the above resonate.***

### Discussion

- It was suggested that there should be confirmation on the terms used and how the programme relates to digitalisation, digital twins, digital assets, and their integration.
- Should the mission statement specify the benefits of digital twins, such as dynamic and open system-wide data enabling decentralised optimisation.
- It could include reference to digitalisation and digital transformation that will be integrated and used in operations.
- Should the mission statement refer to some of the longer-term vision and goals of the programme, such as net zero, security of supply, reliability of supply, efficiency and reduced costs.
- The term 'enabler' was supported.

## 6. Progress reporting and monitoring

- A roadmap for the Virtual Energy System programme is being developed and ESO presented the plans for a governance structure of reporting and monitoring the best practice, implementation and progress of the use case projects and the programme.

### Reflection point

4. ***Are there other examples of best practice for projects or programmes progress reporting?***

### Discussion

- It was suggested that use case projects must be chosen, funded, continuously monitored, and take an agile approach, to ensure they are delivering the intended outcome for the programme.
- It was noted that use cases should be designed with the range of end users in mind, and input from those end users throughout the project will reduce barriers to BAU.
- Projects should have goals and deliverables, with plans to place to seamlessly integrate into business-as-usual operations (BAU) from the start.
- The initial proposal is an important stage to establish and review, in an agile manner, the project's benefits, costs, direction and future integration.
- A central project management structure is preferable for effective integration into BAU.
- It is important to widely disseminate project learnings and the benefits the project achieved.
- Use case project partners should aim to share information and collaborate between projects; which might need to be written into the contract and might require non-disclosure agreements.

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## 7. CrowdFlex: a deep dive and Advanced Dispatch Optimiser

- ESO provided a detailed briefing on the CrowdFlex project, including: the project's inception; previous phases; funding; industry partners and their roles; objectives; trial plans, timescales; flexibility payments; smart devices; domestic consumer flexibility models to be built from the trial data; alignment with the Virtual Energy System programme and other flexibility services; and integrating into BAU.

### Reflection points

5. ***Taking the most important industry KPIs into account, are there other attractive ways we could showcase the benefit of the project?***
6. ***If our approach is centred on incentives rather than regulation, what specific aspects should we prioritise in our research (trial) to ensure its success?***
7. ***CrowdFlex is looking at flexibility from the point of understanding and managing its impact and accelerating its growth. Are there other initiatives that CrowdFlex could incorporate in its studies that would enable accelerating the roll-out of flexibility?***

### Discussion

- Members asked for clarification on details such as: what is the scope of the project; which consumers are taking part; where the flexibility is located on the system and how it fits in with existing flexibility.
- Discussions also included the project deliverables, and how the learnings, data and models will be shared and used in the future, and how it will contribute to the future Virtual Energy System.
- It was noted that the right level of incentivisation will need to be tested as well as other complex consumer behaviour such as timings of notifications and participation fatigue, and segmenting customers to build a detailed and accurate consumer demand model.

### Advanced Dispatch Optimiser

- ESO gave the vision for developing the Advanced Dispatch Optimiser (ADO) for the ESO's National Control Room of the future. The energy system has changed from small numbers of large generators to a larger number of smaller generators. ADO will help operators make complex dispatch decisions, by using AI and machine learning and by building models of distributed energy resources.
- A roadmap for how to develop and implement the system and vision is being developed, including a gap analysis, costs, breaking down the different model development required, e.g., of interconnectors, distribution or generators. It is a complex project; as well as technical challenges there are market reforms required, and the sequence of these changes and delivery is currently being mapped.

### Discussion

- Support was offered for ADO as digitalising the control room is essential to benefit from the lowest cost and lowest carbon dispatch options available.
- It was suggested that control room engineers will need to be confident of the reliability of ADO and confident that it can help advance dispatch optimisation decisions.
- The question was raised about how to prove that the ADO will make good recommendations. Initially it will probably need to run in parallel with existing decision tools and decisions will need to be compared.

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**8. Final reflections**

- The Use Cases and Scope of Data Needs Planning agenda item will be discussed at the next advisory group meeting. ESO gave an overview of the information in the briefing document for this agenda item and welcomed any feedback from the group in advance of the next meeting.
- The Chair thanked the group for their attendance and valuable contributions.

**Recommendations**

- For the next briefing document, it was suggested that more detail is given to the data needs planning, to give a more complete picture of the current data ecosystem.
- It was requested that, when the timing is appropriate, to update the group on how the advice of the three advisory groups is being taken forward and influencing ESO actions.
- Hydrogen use case innovation projects with National Gas was suggested for future innovation partnerships with the Virtual Energy System programme.

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**9. AOB and next meeting**

- The date and time of the next advisory group meeting was confirmed as Friday 17<sup>th</sup> November 10am-12noon.
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