



Local Energy **Oxfordshire**

December 2021 | Version 1

Barriers and Opportunities: Market Trials Recruitment

Ruth Harris



Report Title:	Barriers and Opportunities Report: Trial recruitment
Author(s):	Ruth Harris
Organisation(s):	Oxford City Council

Version:	Final	Date:	02/12/21
Workpack*:	WP6	Deliverable:	6.1.9
Reviewed by:	Charlotte Hewes, SSEN, and WP6		
Date:	15/11/2021		
Signed off by:	Rose Dickinson, Oxford City Council		
Date:	02/12/2021		

Can be shared (Y/N):	Internally		Externally	Y
----------------------	------------	--	------------	---

Context

The UK Government has legislated to reduce its carbon emissions to net zero by 2050. Meeting this target will require significant decarbonisation and an increased demand upon the electricity network. Traditionally an increase in demand on the network would require network reinforcement. However, technology and the ability to balance demand on the system at different periods provide opportunities for new markets to be created, and new demand to be accommodated through a smarter, secure and more flexible network.

The future energy market offers the opportunity to create a decentralised energy system, supporting local renewable energy sources, and new markets that everyone can benefit from through providing flexibility services. To accommodate this change, Distribution Network Operators (DNOs) are changing to become Distribution System Operators (DSOs).

Project Local Energy Oxfordshire (LEO) is an important step in understanding how new markets can work and improving customer engagement. Project LEO is part funded via the Industrial Strategy Challenge Fund (ISCF) who set up a fund in 2018 of £102.5m for UK industry and research to develop systems that can support the global move to renewable energy called: Prospering From the Energy Revolution (PFER).

Project LEO is one of the most ambitious, wide-ranging, innovative, and holistic smart grid trials ever conducted in the UK. LEO will improve our understanding of how opportunities can be maximised and unlocked from the transition to a smarter, flexible electricity system and how households, businesses and communities can realise the benefits. The increase in small-scale renewables and low-carbon technologies is creating opportunities for consumers to generate and sell electricity, store electricity using batteries, and even for electric vehicles (EVs) to alleviate demand on the electricity system. To ensure the benefits of this are realised, Distribution Network Operators (DNO) like Scottish and Southern Electricity Networks (SEN) are becoming Distribution System Operators (DSO).

Project LEO seeks to create the conditions that replicate the electricity system of the future to better understand these relationships and grow an evidence base that can inform how we manage the transition to a smarter electricity system. It will inform how DSOs function in the future, show how markets can be unlocked and supported, create new investment models for community engagement, and support the development of a skilled community positioned to thrive and benefit from a smarter, responsive and flexible electricity network.

Project LEO brings together an exceptional group of stakeholders as Partners to deliver a common goal of creating a sustainable local energy system. This partnership represents the entire energy value chain in a compact and focused consortium and is further enhanced through global leading energy systems research brought by the University of Oxford and Oxford Brookes University consolidating multiple data sources and analysis tools to deliver a model for future local energy system mapping across all energy vectors.

Table of Contents

Barriers and Opportunities Report: Trial recruitment	1
Executive Summary	4
1 Introduction	5
1.1 Overview	5
1.2 Events	5
2 Perceived Barriers to trial participation	6
3 Perceived opportunities for trial participation	7
4 Impact	8
5 Conclusion and Recommendations	10

Executive Summary

Project LEO is producing a series of Barriers and Opportunities Reports throughout the project. This short report focusses on observations made about barriers and opportunities to recruitment to the LEO trials, based on information gathered at three online webinars/workshops:

- Public webinar open to any relevant organisation, hosted by SSEN on behalf of Project LEO on 14 December 2020 and on 23 April 2021,
- Invitation only workshop, open to organisations who are part of the Zero Carbon Oxford Partnership ([ZCOP](#)). Co-hosted by SSEN, Oxford City Council and Oxfordshire County Council as a joint ZCOP and LEO workshop.

Key findings are that barriers to participation reported by those attending these sessions relate primarily to:

1. the complexity of the trials,
2. the level of financial reward,
3. the challenges surrounding internal engagement and governance within in an organisation,
4. the technical capability of an organisation's assets to provide flexibility,
5. whether organisations have the resource and skills to participate, including the ability to assess flexibility potential.

The key drivers identified for taking part in the trials were harder to conclusively determine due to the variety of questions asked across the events, but net zero/environmental and financial drivers were commonly given as the most important. Others relating to being part of innovation/ collaboration, influencing market designs and decisions, trading existing capacity (grid connections), financial support and having a variety of durations of markets were also options presented.

The recommendations are that these barriers and opportunities need to be fed back into the ongoing development of Project LEO's markets and also used to inform future engagement work with potential participants. Key to this is ensuring that information is clear and easily available to potential participants, and where necessary, Project LEO should tailor some of this to specific target audiences or present this on a one-to-one basis. It should also be recognised that some challenges (e.g. assessing flexibility potential, gaining the resources and skills needed to participate) may be beyond the scope of Project LEO to directly address; where this is the case its recommended that Project LEO seeks to collaborate with others who may be able to assist and lobby for change that supports engagement with local energy flexibility. Further work in this space would need to be developed by the project to ensure a co-ordinated and effective approach both internally and with other local stakeholders.

1 Introduction

1.1 Overview

Project LEO considers one of the key barriers to achieving net zero and making the most of renewable technologies and flexible energy solutions at the scale needed, is the absence of the right markets and platforms that can unlock the value of energy flexibility services. Information on what is meant by energy flexibility services can be found on the Project LEO website [here](#).

Project LEO is undertaking several different trials to explore the potential of different types of energy assets and communities to deliver flexible energy services. The trials that are referenced in this report are the testing of new markets, approaches and platforms that facilitate the buying and selling of flexible energy services to the Distributions System Operator (DSO), and for companies and organisations in the same local area to trade grid connection capacity between each other.

These trials are important as they will help us to understand how to unlock the value of flexible energy, both in terms of commercial value and wider environmental and social value.

This report does not seek to provide full details of these market trials/the services being tested - more information can be found on both the [Project LEO website](#) and the [SSEN Transition website](#). Instead, this report focusses on three key engagement events undertaken with potential trial participants that formally collated their feedback from attendees. For the market trials to be a success and to create a competitive and liquid market, they require a number of participants in the right geographic area and with assets that are capable of providing controllable flexible energy services. Such engagements are aimed at encouraging and enabling this participation.

1.2 Events

Project LEO has undertaken three webinars/workshops to date to support the recruitment of market trial participants. The purpose of all of these was ultimately to provide interested companies and organisations with information about the trials and how to sign up.

There was a mix of attendees at the sessions, with the majority representing companies and organisations with assets that could take part in the trials, or who were interested in acting as an aggregator of externally owned assets. Domestic participation needs to be through an aggregator so the webinars were not open to this audience.

The first two events were public webinars hosted by SSEN on behalf of Project LEO on 14 December 2020 (18 attendees) and 23 April 2021 (25 attendees). These were public events and open to any relevant organisation or company, with feedback gathered through Slido (an interactive polling platform). A small number of attendees came to both sessions.

The third event was an invitation only workshop, open to organisations who are part of the Zero Carbon Oxford Partnership ([ZCOP](#)), on 28 October 2021. This was co-hosted by SSEN, Oxford City Council and Oxfordshire County Council as a joint ZCOP and LEO workshop, with 22 attendees from

11 organisations. It involved presentation material explaining at a basic level what was meant by energy flexibility and flexible energy services, why it was important to achieving the net zero goal adopted by the ZCOP, what the LEO trials are, some high level information about payment for participating in the trials, information on how to sign up and who to speak to for support with the trials. As the workshop was a small group of pre-defined organisations, it was intended to be interactive with frequent breaks for guided discussion, questions and answers. Slido was also used to generate feedback.

Information gathered from the Slido feedback from these events has been reviewed and used to make observations on the barriers and opportunities to participants for engaging with the trials. Understanding what these are is helpful to feed back into market design and to tailor and target our communication and engagement, in order to support further recruitment of participants throughout Project LEO.

It should be noted that Slido is an anonymous platform, so it is not possible to establish who may have been providing the responses to questions or to identify any significant trends in who the response was made by.

2 Perceived Barriers to trial participation

All events asked a similarly worded question of participants around challenges/barriers to participating in the trials. Common themes across all three events were:

- Complexity: Concern that in general the trials were too complicated. Some respondents suggested that the process needed simplifying across the board, especially if LEO wanted to recruit a range of market actors including those with limited expertise or resources.
- Financial reward: Concern that the financial return was too little for the amount of effort required, and/or quantifying the financial return to build the business case for involvement would be difficult.
- Engagement: Concern that it could be challenging to get internal buy-in from senior management or get support for participating through internal governance, especially if it is not a corporate priority.
- Technical capability: Concern that there may be technical barriers to participation. Many were listed, including – incompatible equipment, timings for flexibility services not aligning with asset use, assets not accessible or are outside the trial area, remote controllability of assets/communications outages, metering requirements, understanding which assets are capable of providing flexibility.
- Resource and skills: Concern that organisations might not have the required resource, skills and technical knowledge to participate.

Other perceived barriers which emerged across one or more of the events included understanding whether participation could be made fair for small providers; whether the Distributed Network

Operator would be able to accept a mixture of asset types, sizes and risk profiles; assets already being utilised elsewhere in existing markets; and assessment of what flexibility potential exists in assets.

3 Perceived opportunities for trial participation

All events asked a question about ranking the importance to organisations of certain statements on possible benefits/drivers to participate. The statements were not identical across all events and due to this it's not possible to conclusively draw common themes across all three events for all statements. However, there were financial and net zero/environmental statements in all three events.

Contributing to reaching net zero targets was considered most important at two out of the three events (23 April 2021 and 28 October 2021), with financial benefits being the most important at the third (14 December 2020). This suggests that initial assumptions by Project LEO, that financial drivers will be the most important factor in developing a marketplace, could be incorrect. However, further data would be needed to confirm this conclusively. The high degree of importance placed on net zero targets could be indicative of increasing environmental awareness of organisations about climate action, especially with the UK hosting COP26 in 2021. Alternatively, it is possible that those who rate financial return as a key driver for taking part may have chosen not to attend the webinars and vice versa.

All statements were considered to be important to a certain degree by participants and therefore all represent some level of opportunity that should be considered by Project LEO in market design and engagement. The statements can be loosely grouped as the following opportunities:

- contribute to net-zero targets/show environmental responsibility
- show innovation and collaboration/gain reputational benefits
- generate revenue/gain financial benefit
- increase export or import capacity (i.e. grid connections)
- influence future decisions/designs [of flexibility and markets]

Some of the events asked additional questions. Market Stimuli Packages were noted as an opportunity, with 5 of 12 respondents who answered this question thinking they would be a useful route to entering the markets, with auctions and fixed price routes receiving a much lower score. 6 out of 15 respondents also thought that a mixture of market durations (e.g. daily, weekly, seasonal) would give them the best scope to participate, although some (4 out of 15 respondents) were also unsure what duration would work best for them. This suggests that there is willingness from potential participants for the LEO trials to experiment with both Market Stimuli Packages and market durations to investigate their impact.

4 Impact

Project LEO is developing a framework to describe and analyse capability of both the system and participants to engage with flexibility, and a report on this is due to be published shortly. This capability approach provides a useful framework to set out how the learnings on barriers from all three of the workshops have either already helped to shape the development of the trials and/or the approach Project LEO takes to engage with potential trial participants. It also helps highlight areas where further work may be required, as by addressing barriers Project LEO has a better chance to recruit the variety and number of organisations needed for the trials. This is assessed in Table 1 overleaf.

The workshops were aimed at and attracted slightly different target audiences, but feedback indicates that they have helped to develop understanding of what energy flexibility is – especially with the workshop held for ZCOP organisations who are typically less likely to be engaging with energy flexibility markets.

The impact on engagement from the workshop feedback is a move away from open engagement sessions (where the audience is self-selecting), towards sessions which are targeted at specific groups of organisations (as was done with ZCOP) and also bespoke one-to-one sessions with organisations. Feedback received to date on these changes to engagement processes has been positive, with organisations appreciative of the more individual approach and has generated some interest for participation in the trial.

Another impact on engagement activities as a result of workshop feedback is further consideration on making information about flexibility and the trials more accessible. This has led to animations being developed that explain in simple terms the different flexibility services, with another being developed that explains the trials. There has also been a greater use of infographics and diagrams on the website to more clearly convey complex information.

The impact on trial design from workshop feedback was also significant, as it led to the launch of the Market Stimulation packages, which offer a lower risk simplified option for participation with financial certainty. The other change was the removal of the 50kW minimum limit on participation, allowing organisations with smaller amounts of flexibility to participate.

Table 1: Assessment of barriers identified at the workshops

Barrier	Capability	Impact so far as a result of the workshop feedback	Barrier currently addressed by LEO?
Trials are considered by some potential participants as [too] complex.	System level – the market trials need to be set up in a way which is clear and can be understood by a range of participants.	Workshops have improved attendees understanding of energy flexibility and the LEO trials and has helped inform a move towards ‘1 to 1’ tailored discussions with potential market participants.	Being addressed on an ongoing basis. Communications, engagement materials and trial design undergo assessment and updates that drive continual improvement.
Insufficient financial reward/ hard to build business case	System level – there needs to be sufficient financial reward, and information on this available.	The first two workshops have led to the development of the Market Stimulation Packages. However, there was still a concern around quantifying the financial return and building the business case.	Being addressed on an ongoing basis. Market Stimuli Packages in place and Contract Value calculator produced. Learning from Trial Period 1 could help others understand the financial business case. Also currently looking at how businesses can avoid requiring costly legal advice to review the Flexibility Services Agreement.
Internal engagement / governance is difficult	Organisation or individual level – there needs to be sufficient information in the correct format at the correct time.	Workshops have led to engagement material being developed which is tailored to needs of individual organisations and their governance processes – e.g. bespoke slide packs and information sheets.	Being addressed on an ongoing basis. Communications, engagement materials and trial design undergo assessment and updates that drive continual improvement.
Potential participants may not have technical capability / assets ready to participate	Organisation or individual level – there needs to be assets which can be controlled when required, with known amounts of flexibility.	The first two workshops have led to the development of the Market Stimulation Packages which in some cases may provide finance to support upgrade of assets.	Partially addressed. Market Stimulation Packages (and the markets) can only be used if organisations have already quantified their flexibility. They also do not apply to the capacity trading trials. There remains a question on how to support organisations to quantify flexibility and access the markets, if they do not have in house skills and resource to assess flexibility and get their assets “flex ready”.
Potential participants may not have the required resource and skills	Organisation or individual level – there needs to be people with the skills and expertise to interact with the markets and assets.	Workshops have not led to impact on skills and resources needs of individual organisations.	Not addressed. Project LEO isn’t providing training or resource to 3 rd parties to address this. There remains a questions on how to support organisations in developing the required skills and gaining the required resources to participate.

5 Conclusion and Recommendations

It's clear that there are opportunities surrounding the trials which organisations felt are important drivers for them to join in. Net zero/environmental drivers for participation ranked highly amongst attendees, followed closely by financial rewards for participation. Other benefits/drivers for participation were harder to conclusively identify due to the way in which the questions were asked across the three events, but it is thought that innovation/collaboration, influencing market designs and decisions, trading existing capacity (grid connections), financial support to enter the trials (i.e. Market Stimuli Packages) and a variety of durations of markets are important to a varying extent. It is recommended that future engagement work with participants, and ongoing development of the trial design, clearly considers how to respond to these key barriers and drivers for participation, especially for those who are not directly part of the LEO consortium.

Barriers to participation which have been identified by engaging with potential participants primarily relate to the complexity of the trials, the level of financial reward, the challenges surrounding internal engagement and governance within in an organisation, the technical capability of an organisation's assets to provide flexibility, and finally whether organisations have the resource and skills to participate. Not all of these barriers are being fully addressed within Project LEO; it is recommended that the project develops a plan to do so internally, or to confirm how these might be addressed outside the project.

Feedback from the workshops have led to Project LEO taking steps to try and reduce or remove these barriers, but more could always be done through a process of continual improvement of trial design, available information and engagement activities. However, barriers around assessing and quantifying the flexibility potential of assets, and whether potential participant organisations have the required skills and resources, is much harder to easily address.

These may be beyond the scope of Project LEO to directly take action; if this is the case its recommended that Project LEO seek to collaborate with others who may be able to assist and lobby for change where needed. Further work in this space would need to be developed by the project to ensure a co-ordinated and effective approach both internally and with other local stakeholders.



Visit us at

www.project-leo.co.uk/

**Stay Connected for news, events
and much more...**

www.project-leo.co.uk/stay-connected/