21 lessons for DNOs on network innovation projects with community involvement

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Introduction

Network innovation projects provide an opportunity for distribution network operators (DNOs) to explore new technologies and ways of working that are fit to respond to the demands of a changing energy system and serve customers better. Pressure to integrate higher levels of distributed generation into the existing network and to balance this with an evolving pattern of demand mean that DNOs need to find new and creative ways to ensure that their networks are able to facilitate the take up of initiatives such as demand-side management, smart technology, and local renewable generation. The move to a low carbon economy presents a particular challenge in terms of the need to provide value for money whilst maintaining security of supply.

This shift in focus from one-way supply to a more active network management approach requires the development of a new and more direct relationship between DNOs and end-users. This transition in role from DNO to DSO (Distribution System Operator) opens up opportunities to work alongside communities to find ways to address network constraints at a local level. A community approach can allow for coordinated engagement with customers at a scale that is significant enough to have an impact on local network activity.

This document aims to help DNOs to develop the way that they engage with communities in order to improve the outcome of future network innovation projects which involve communities. It identifies a set of 21 lessons from previous projects, organised by theme:

• Smarter project design

• Working with partners

• Getting and keeping the community on board

• Leaving a legacy

The lessons presented here are based on a review of publicly available project reports and on feedback provided during a series of interviews carried out with DNO innovation project managers and their partners. All but one of these projects was primarily funded through the Low Carbon Network Fund.

Smarter project design

1. Be ambitious

Radical, rather than incremental, innovation is needed in order to find solutions that are disruptive enough to transform the way that networks are managed. In order to foster this type of innovation, DNOs need to be open to ideas that are truly ambitious in scope. This applies to projects with community involvement as much as to technical innovation.

2. Don't rush the roll-out of the trial

Innovation projects carry an inherent level of risk, and unforeseen problems such as delays or technical difficulties can be frustrating for participants and can lead to a loss of interest. Where possible, allowing time for pilot testing of engagement techniques prior to wider roll-out can help to fine-tune the overall approach. Similarly, small-scale trialling of new technologies or software can reduce the risk of installation or operational problems that could have an impact on trial performance. Being open about the objectives of the work from the very start, and being clear about its nature as a research project, can also help to mitigate these risks.

3. Set an realistic timeframe

The combination of trialling new technologies and the need to achieve high levels of community engagement is a recipe for time delays and potential harm to recruitment levels. DNOs need to factor in risks of delays in technology being delivered, tested and ready to trial with participants in the community. The project also needs to factor in time for recruitment effort and be alert to any mismatch between technology availability and recruitment timeline. Time also needs to be allowed for the collection of baseline consumption data.

4. Understand your target community

Preliminary research carried out as part of the scoping stage can help the DNO to better understand a community. Such research might include gathering information about local population demographics and dynamics, analysing fuel poverty statistics or EPC data. This desk-based research cannot entirely substitute for on-the-ground research talking to people. Traditional methods such as focus groups can be useful but there are also more innovative approaches to engaging with different sections of a community. You need to get under the skin of the attitudes, perceptions, opinions and beliefs of potential participants. See also the lessons for 'Getting and keeping the community on board'.

5. Select a sample that is representative of your customer base

A sample that is representative of the customer base is essential in order to ensure that trial results will have wider relevance. Larger samples are more likely to produce data that are applicable to other areas of the network. Whilst some level of stratification is often appropriate, the number of sub-groups should be rationalised to avoid difficulties in recruiting sufficient numbers for all test cells.

Working with partners

6. Select partners that will help to build trust

Public awareness of DNOs and the role that they play within the energy system is low. Partnering with organisations that are already well-known and trusted within the community can accelerate recruitment and provide confidence by association. Teaming up with housing associations or universities was found to be particularly effective in the projects reviewed. Preliminary research can help to identify the most appropriate organisation in the trial context.

7. Don't be afraid of working with someone new

DNOs often look for partners who are experienced and have a track record of delivery on similar projects. However the need to obtain specific expertise can limit the number of partners that may be suitable. Choosing to work with someone different can bring in new skills and ideas, as well as exposure to new networks, and can help to challenge established practice.

8. Conduct a partner skills audit

A skills audit can help the DNO to gain an understanding of the knowledge and competency requirements for effective delivery of the project, and to consider how prospective partners might be able to meet these. It can aid in the formation of a team that includes both strategic and practical expertise, and allows for the identification of any further training needs. This process may need to be iterative as the project progresses.

9. Be flexible

Innovation teams need to be flexible in the way that they engage with other partners – and allow time to build trusting working relationships. Project managers need to work to understand and balance the perspectives, objectives and ways of working of the different partners involved. For example, a community group may not have the resources to sustain work at the same intensity as a company with full-time employees. Small organisations may express frustration at what they may perceive as obstructive bureaucratic procedures followed by a DNO.

10. Actively encourage skill and knowledge sharing between partners

Diverse partnerships and close collaborations can be strengths. Encouraging a high level of interaction between partners can help to improve and broaden the skills of each participant, leading to more cohesive working and better outcomes. Actively promoting skill and knowledge sharing activities on an ongoing basis throughout the duration of the work can also allow partners to share up-to-date learnings from other relevant projects that they are working on simultaneously, outside of the current innovation project.

Community engagement and trust

11. Don't ignore natural community structures

Setting the boundaries of a local target community so that they align with network geography can be problematic for recruitment and for motivating action. Using a community-based identification of geographic boundaries can open up opportunities to make use of existing affiliations, community hubs and information points for recruitment and ongoing engagement. Where a project seeks to use social influences, such as peer pressure, to bring about behavioural change, participant's recognition of the geography can help motivate them to act in a way that they think that will benefit their community.

12. Look to work with existing community groups

Involvement with an active community group can help to ensure that a project is locally relevant. Group members can contribute local knowledge, experience and an understanding of the target audience that can sharpen up the engagement strategy. They may be able to offer useful contacts and skills, as well as being a representative voice for their community. However, it is important to bear in mind that the views of the group may be atypical of the wider community. You may need to think creatively to find alternative routes to broaden the appeal of the project outside of the existing network of an established group.

13. Consider the impact of local geography for trial delivery

The landscape characteristics of a trial location can have an impact on the success of engagement activities. DNOs should consider whether their target location presents any particular barriers or opportunities. For example, whilst areas with significant grid constraints can provide good real-world examples of problems that can be addressed through network innovation and can be attractive as potential testing sites, it is quite common for such areas to be rural in nature. This can mean that the infrastructure may be less well developed and that potential participants may be more spread out, making recruitment more difficult and possibly leading to higher associated costs. Participants may also experience difficulties in attending events where they have to travel to venues that are not near to their home. Digital engagement methods may be more cost effective in such cases, however very rural areas may also experience limited internet connectivity or phone reception, and this can create additional difficulties both in relation to engagement activities and for the effective functioning of innovative technologies.

14. Don't choose a 'one-size-fits-all' approach to engagement

An engagement approach that attempts to recruit participants from across a community using just one method or technique is unlikely to succeed. Messaging needs to be specific to each of the different audiences identified through market research, using more than one type of communication channel. A mix of digital engagement and face to face interaction during events and door to door visits is likely to be required. Be aware too that an approach that has been successful elsewhere may not be directly transferable to a new location. Review points should be incorporated into the engagement process to provide an opportunity to identify weaknesses and adjust tactics.

15. Pitch incentives at an appropriate level

Incentives, such as offerings of cash, vouchers or energy-saving appliances, can be a useful means of attracting and maintaining interest in the project. But it is worth testing whether the offer is suitable for the context. Incentives that are deemed to be too generous can lead to scepticism. Insufficiently generous incentives may equally lead to poor take-up. Larger community groups have experience of accessing other funding streams, so may require sufficiently attractive incentives to compete with other offers, especially where ongoing participation is required.

16. Aim for inclusivity

DNOs should aim to identify and address possible barriers to participation as part of the methodology design. These might include the presence of prepayment metering, dual fuel tariffs or the customer not having English as a first language. This is particularly important in order to explore the distributional impacts of the work. The method(s) selected for engagement can have an impact on the characteristics of the final sample. Methods that require households to 'opt-in' can lead to a better performing sample (i.e. in terms of achieving greater energy savings) as interested people will self-select. Daytime door-knocking for recruitment can result in a relatively high proportion of people who are retired or at home during the day for other reasons (who may have a less 'peaky' electricity demand profile). The use of smartphone technology could exclude those that do not have access to the right type of handset. Overly restrictive eligibility criteria can make it difficult to achieve a randomised sample or to realise a picture that is truly representative.

17. Maintain regular communication

The issue of trust is unlikely to be addressed as a one-off exercise, and requires ongoing attention throughout the project. Maintaining communication with participants on a regular basis throughout the project can help to minimise passive participation and reduce drop-out rates. During the initial stages of a trial, project teams should try to balance the need to allow sufficient time to satisfy recruitment targets with the need to avoid a long time-lag between initial recruitment and the start of trial activity. Positive feedback at regular intervals can help to sustain interest.

Leave a positive legacy

18. Consider the impact of a trial on its participants

Data protection and safeguarding procedures should be in place prior to the recruitment of participants. You may need to make a judgment on whether particularly vulnerable individuals should be excluded from participation or whether such customers are afforded greater protection by being included in the trial. Potential risk factors may include health conditions, indebtedness or learning impairments. Consider whether there is a need to put in place measures for financial compensation in the case that the trial leaves participants worse off than they would have been otherwise.

19. Don't hide mistakes

Where a technology or methodology has not been as successful as expected, this can in itself provide useful learning that can help to improve the performance of future trials. Regular project management analytics and simple audit checks mean potential problems can be promptly addressed so that their impact on project outcomes can be minimised. For example, this might include enabling the identification of a skills gap that can then be remedied through training or recruitment in a timely manner.

20. Pass on learning effectively

Sharing learning amongst DNOs is encouraged by Ofgem as it can help the sector to achieve a rapid pace of change. Care should be taken to ensure that project progress and close-down reporting is clear and well-structured so that key information can be easily accessed by others and used to inform the planning of future projects. Where dense technical text is necessary, the provision of a separate non-technical summary is advisable, and reports that specifically aim to draw out lessons learnt have been found to be particularly valuable to other project managers and their teams.

21. Leave a positive legacy

Network innovation projects provide an opportunity for DNOs to make a positive difference to a community. Participation in local energy projects can help to promote community cohesion and resilience through the development of new skills and social networks. Depending on the nature of the work involved, there may be an opportunity to further benefit the local economy, for example through the use of local labour, or to leave a technical legacy such as the connection of a community-led generation project or installation of EV charging points. Such benefits can help to create an environment in which future projects may be more likely to succeed, as well as raise the profile of the DNO and promote a positive perception of the organisation amongst its customers and wider stakeholders. Consideration of these impacts as part of the early planning stage can help to maximise such opportunities.

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