

ENGAGEMENT AND INCLUSION REPORT



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Introduction to LEO-N

Neighbourhoods are at the heart of energy system change

The energy system is changing – and needs to change fast. Decarbonisation, decentralisation, digitalisation are all disrupting the way our energy system works and are going to fundamentally change the way we interact with energy.

The challenge for efficient network management

The electrification of heat and transport means that the amount and profile of electricity used in households and businesses is going to change dramatically. The network needs to be significantly upgraded at the level of secondary substations and feeders into our homes and businesses.

Efficient network transformation means ‘touching the network once’ in the next 50 years

But different streets, let alone neighbourhoods, will decarbonise at different paces and different pathways. There is a risk of reactive network reinforcement, where proactive reinforcement is more efficient and effective, because neighbourhood-level needs are difficult to forecast accurately and provided for. The amount of network upgrades needed can be significantly reduced if property-level energy efficiency measures are adopted at a neighbourhood level.

“Getting distribution grids built in the right way, so customers can make the most of these new opportunities as soon as possible, is essential. When distribution networks are built like this, the benefits will not only go directly to individuals, but also their communities. live flexible energy trading, so customers with more power than they need can sell it back to their community.” Chris Burchell, Managing Director, SSEN Distribution

Local Energy Oxfordshire – Neighbourhoods

- *Taps into organised community energy groups that will pave the way for others*
- *Implements local area energy planning at a truly local level and joins the dots with strategic planning and network investment programmes*
- *Accelerates adoption of smart Low Carbon Technologies that optimise property energy use ‘behind the meter’*
- *Demonstrates neighbourhood level ‘smart community energy schemes’ to deploy flex for the benefit of participants and the network operator (and hence the wider community)*
- *Increases the efficiency and wider net-gains of the transition to a decarbonised energy system by innovating at the neighbourhood level.*

Our neighbourhood-level approach delivers:

A **fair**, **participative** and **efficient**
decarbonised energy system at the grid-edge, where energy is used
in our households and businesses

a. Why fairness matters

Our energy system is much more than the wires and switches that make up its physical infrastructure. It is also a social system, developed by people, for people. As we transition to a zero-carbon energy system, the changes required will be as much about people and the way they interact with it, as it is about technology.

The energy services we develop will not only need to be technically feasible and commercially viable, but also socially desirable. They need to be desirable to both the users of those services and our energy system, and to our wider society. And in order to be desirable, they need to be fair.

The International Panel on Climate Change has observed that fairness, or ‘equity’ can be considered in several ways: a moral justification, founded on ethical principles; a legal right upholding existing treaties and agreements; or from the perspective of effectiveness.

Any arrangement considered fair is more likely to meet with social approval. Social licence to operate not only then makes it more likely that local energy solutions will be agreed and implemented, but that we will achieve the mass participation required to deliver a locally balanced energy system at sufficient scale. The pursuit of energy equity therefore is not only an admirable goal for the energy transition – but also a means to our end.

What do we mean by energy equity?

The World Energy Council (WEC) sets out the challenge to achieving a successful energy transition as one which meets the ‘energy trilemma’ – in that it successfully meets three core dimensions: *energy security, energy equity, and the environmental sustainability of energy systems.*

THE ENERGY TRILEMMA

Energy security

The capacity to meet current and future energy demand reliably.

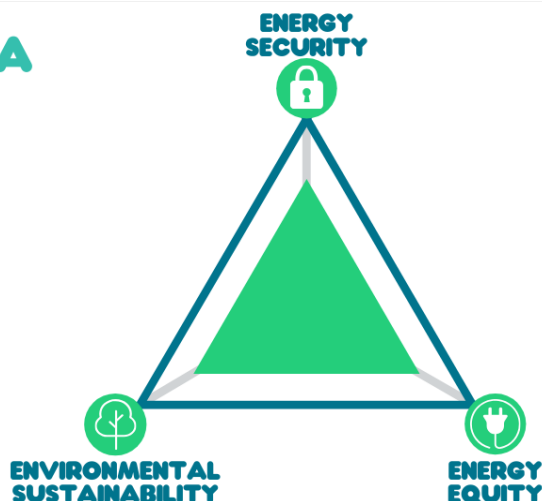
Energy equity

Universal access to affordable, fairly priced and abundant energy.

Environmental Sustainability

Mitigating and avoiding potential environmental harm and climate change impacts.

Adapted from The World Energy Council Energy Trilemma Dimensions diagram



Although often interpreted as ‘affordable’ or ‘cheap’ energy, WEC’s description of energy equity also encompasses universal access to energy. In the context of the transition to a zero-carbon local energy system, we broaden this concept to include equitable access to the benefits and opportunities our future energy system can deliver.

Fairness of outcomes, process and treatment

To achieve energy equity, we need to consider three different dimensions of ‘fairness’:

Fairness of outcomes

This relates to the distribution of outcomes – fair access to the opportunities, benefits, and value that is created as our energy system is decarbonised and digitalised, and the fair distribution of costs. This may be at an individual situational level (is the price of participation in a service fair exchange for the value derived), within a group (am I paying more than my neighbour), or at a system level (where does value generated by a service offering accumulate, and who picks up the bill). It needs to consider both issues of accessibility (is there a range of services that between them meet everyone’s needs) as well as the relative distribution of costs and benefits (how much each participant benefits, and who pays what.)

Fairness of process

This relates to the process by which the distribution of outcomes is arrived at, and the degree to which stakeholders have the capacity to influence the outcome. For example, processes may be more likely to be perceived as fair if they are accurate, unbiased, consistent, correctable (can be modified and grievances aired), ethical, and representative in reflecting the basic concerns of the people involved.

Fairness of treatment

This relates to the way we interact with people, both in terms of the information they receive (e.g. adequate information and explanation of the process and outcomes) and whether we meet their expectations in terms of the way we treat people – in a respectful, honest, and sensitive manner.



Only by addressing all three are we able to achieve energy equity.

The importance of inclusion and participation

If we want a fair energy system, it must be inclusive, and to achieve the scale, and speed, of transformation required, it will need mass participation. Our experience from LEO aligns with the latest thinking from other advocates for an equitable energy system.

The Citizens Advice Report *A flexible future: [Extending the benefits of energy flexibility to more households](#)*, calls on the government to set out a clear plan for achieving greater inclusion. They set out a range of actions to achieve better **information**, appropriate **regulation** and inclusive **innovation**.

Diagram reproduced by kind permission of Citizens Advice.



Recommendations for a flexible future, from 'A flexible future' report, Citizens Advice, August 2023

Project LEO delivered valuable insights into achieving inclusion and participation in the energy system, across all three of these recommendations.

- Through the Smart and Fair Neighbourhood trials we learned how to communicate with non-technical audiences about the energy system and flexibility.
- We set out ethical principles that put equity and fairness at the heart of these trials.
- We developed and trialled a set of tools to support the design and delivery of inclusive energy products and services.
- We learned that local energy systems need the support of national level policy, regulation and planning in order to succeed.

The Centre for Sustainable Energy's Smart and Fair Programme is a response to the premise that an energy system in transition is at risk of creating new ways to generate unfairness, and so lose public support as a result.

The capability lens approach they have developed highlights the need for energy system users to have both the capacity and opportunity to participate, as well as the willingness to take the risks involved in participation.

As we have demonstrated in Project LEO, by understanding the capacities, and propensities of people to participate, it is possible to increase inclusivity, and reduce the risk that people are left behind in the transition.

b. Creating desirable energy services

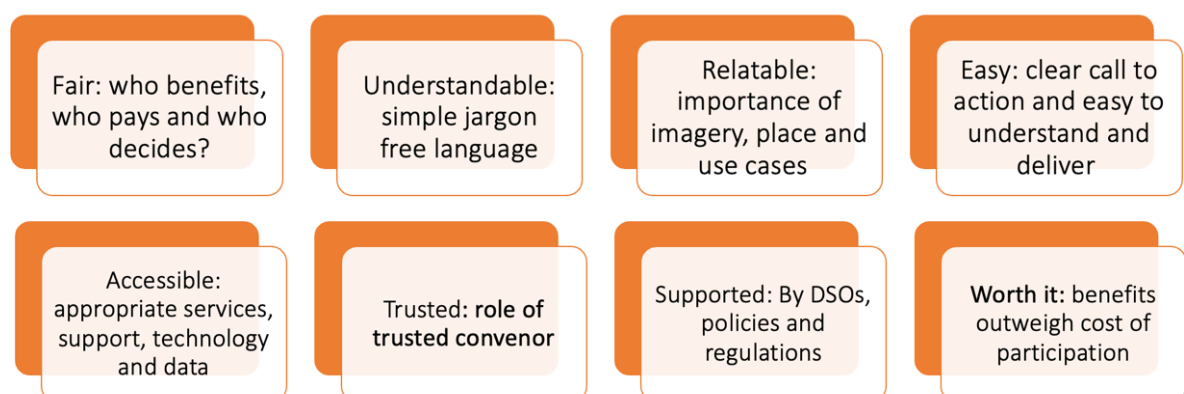
Project LEO considered three key questions as it explored the potential for a flexibility service to successfully contribute to the decarbonisation of the energy system:

- Is it technically feasible?
- Is there a financially viable business model to underpin the commercial delivery of the service?
- Is the service desirable – to society, the energy system and the user?

A service can work technically, and the commercial model underpinning a business to deliver it may be viable. But unless a potential user considers a service to be desirable, they won't participate.

In Project LEO we identified eight key factors that help increase participation.

Maximising participation



Fair

We set out the case for fairness in Section a.

Understandable

As well as being perceived to be fair, offerings need to be understandable and jargon-free. The energy world is heavy on technical terms. In Project LEO we found there was a lack of consistency in the way terms relating to flexibility were used within the technical energy actor community.

When working with non-technical audiences, we found at best a patchy, and usually a very low, level of understanding of the energy system.

In report [D3.10 Designing smart and fair neighbourhood trials ethically](#) we summarised some of the approaches we used to make flexibility services more understandable. These included:

- **Creating ‘plainer English’ definitions and descriptions**
Agreeing standardised definitions of key terms – and then de-jargonising them. The tongue-in-cheek term ‘plainer English’ was coined by the communications team on the project in response to the Plain English definitions that had been initially adopted within the programme, which required making even plainer, for a non-technical audience. This took several iterations of testing and adaptation before they were fit for purpose.
- **Creating a range of different communication tools**
Creating shared common definitions and explainer text for the Project LEO website was a very useful process in terms of helping the Project LEO team reach a shared understanding of key terms and concepts. We found animation and bitesize videos worked well for explaining concepts.
- **Focusing on benefits and the call to action, rather than features**
Most people want to know how a service will benefit them, and what it is they need to do – rather than understand the technical features of flexibility and the energy system. Knowing that it will cost me less to run my washing machine at a particular time is more important than understanding the details of the flexibility service I am delivering as a result of that action.

Relatable

Flexibility services need to be relatable. Most people have no idea what ‘flexibility’ is. Case studies and examples and appropriate imagery can help bring it to life, and help people identify when an opportunity may be relevant to them. And because people and their energy needs are very different - we don’t all live in detached houses, with off-road parking and a roof suitable for solar panels – the people designing flexibility services need to create a range of different opportunities that take into account different people’s needs, motivations and capabilities to get involved.

Easy

The call to action (what is it we want people to do) needs to be clear and simple. We also need to identify, and where possible remove, the barriers to participation. These create friction along our customer journey. Barriers such as upfront costs and complex forms can stop people from ever using your service. Other barriers can reduce the stickability, or engagement level, of a service. Automation can help here, reducing how much time it takes to participate – and a reliance on people remembering to take part.

Accessible

Do people have access to finance to pay for low carbon technologies? Can they access their own energy data? How do they access the support and training they need to understand the opportunities and make the most of any technology that is installed?

Trust

A smart and flexible energy system will see people having to let the DSO or other third party actors access ‘behind the meter’ and into their homes. There may be fears about sharing data and giving up control. A local convenor can really help in developing that trust.

Supportive policies and business practices

The opportunities need to be supported by, rather than hindered by, business-as-usual processes, or the policies and regulations that govern the energy system. In the UK for example, it’s not currently possible to trade electricity locally without an extremely expensive license.

Worth it

And finally it’s got to be worth the effort – the benefits of participation have got to outweigh the cost of participation. We need to identify the benefits that people actually value (both financial and non-financial) and how we can minimise the cost to them of reaping those benefits.

In the *Participation and Inclusion Playbook*, we offer a range of tools and techniques to help design desirable energy services, in order to maximise participation.

2. LEO ethical principles

To fully unlock the potential benefits of flexibility at the grid edge, mass participation is needed. This in turn requires tailored opportunities to meet the interests and needs of different individuals, organisations and communities.

Through Project LEO we developed two sets of ethical principles – one relating to trial delivery and a second to designing and delivering equitable local energy service offerings. These are set out in more detail in the report *Developing an ethical framework for local energy approaches (Nov 2020)*. [https://project-leo.co.uk/wp-content/uploads/2020/11/Project-LEO-ethical-framework-2020-final_ext.pdf]

Principles of ethical trial delivery

Principle 1: Clarity of scope

Stakeholders are clear about the anticipated scope of the project – what it can and can't address or deliver within the available resourcing and timeframe.

LEO learning:

- *Identifying all the potential stakeholders in a project, and then categorising them in relation to their likely role in a project's success, is key for identifying what engagement activity to prioritise and at what time.*
- *Having clear objectives regarding the purpose of any communication to, or engagement with, stakeholders helped in deciding the most effective form of communication.*

Principle 2: Collaborative design

We will work with the community such that the trial meets both the needs of Project LEO and the catalysing community group.

LEO learning:

- *Collaboration with existing local groups and partners was key to the successful delivery of the trials, enabling the pooling of collective expertise to identify opportunities.*
- *You need to invest significant time and resources at the start of a project to work with key stakeholders on the scope of the activity. This is likely to be an iterative process and may need to be revisited once the activity is underway – the more so the more innovative it is.*
- *There is a very varied level of understanding of the energy system amongst most of the general public, and the base level is usually very low. There was almost no awareness of the concept of flexibility or the potential value it can deliver to system users, the energy system or a decarbonisation agenda.*

Principle 3: Inclusive participation

We aim to make it possible for a wide number of stakeholders to have a voice in the design and delivery of the trial, including the service offering that it will test, even if they do not directly participate.

LEO learning:

- *Involving all possible stakeholders in the design of a trial can be resource-intensive. Focus on those most likely to be interested, influential in its success or at risk of being dis-benefitted by an activity.*
- *One size doesn't fit all: to increase participation in the delivery of flexibility we will need a range of different services, each tailored to the needs and interests of different individuals and the places they live.*
- *A capability lens approach can be used to widen participation in an activity.*
- *There's nothing quite like meeting people face to face in their communities to support strong communication and trust.*

Principle 4: Do no harm

We aim to protect all participants directly involved in the trial, and ensure that no one from the wider community is worse off as a result of the trial. Although this does not preclude individuals from being exposed to some level of risk through their involvement in the trial (e.g. financial), as long as it is with full information regarding the risk. Participation is at their own free will, and should it arise, the risk does not cause significant, lasting harm.

LEO learning:

- *It is impossible to rule out any risk – but it can be mitigated if you design out risk where possible.*
- *Set risk assessment protocols including lone-working and safeguarding.*
- *Buy-in expert services.*
- *Plan for what happens once the trial ends. .*

Principle 5: Rewarding experience

We want to see fair distribution of the benefits arising from the trial and make each touch point rewarding for the participant.

LEO learning:

- *Build the value proposition for the service or product to be tested with the service user at its heart.*
- *Use a cascading approach to roll out and test assumptions in the value proposition.*
- *Build the wider trial so that it delivers benefits to all its key stakeholders.*
- *Identify potential barriers to participation and strategies to lower them.*
- *Identify what causes friction along the customer journey, and what can be done to reduce it.*
- *Identify competing behaviours and opportunities that could make your offer less attractive.*

Principle 6: Informed consent

We will ensure participants in the trial have adequate information, presented in a clear and accessible way, about the benefits, costs, and risks associated to make an informed decision about participation.

LEO learning:

- *Provide people with all the information they need to make an informed decision.*
- *Provide the right to withdraw at any time.*

Principle 7: Respect

We will treat participants and other stakeholders fairly, sensitively and with respect throughout the trial. This includes being respectful of their time, views and property.

LEO learning:

- *Design trials so they meet both our project needs, and local needs and interests.*
- *Design clear customer journeys.*
- *Listen to, and respect the views of, local stakeholders.*
- *Provide clarity as to who is responsible for supporting participants with unexpected issues that may arise.*
- *Build in time to feed back results and findings to trial participants and other stakeholders.*

Principle 8: Continuous improvement

We will actively seek feedback during the process. We will monitor and review the trial as it is underway and use the learning to modify and improve elements if necessary.

LEO learning:

- *Learn from mistakes – and pivot.*
- *Build in review periods to reflect on how trial design and delivery is living up to the ethical principles, and identify opportunities for improvement.*

Principles for equitable service offerings

The Smart and Fair Neighbourhood trials also aimed to test a set of principles relating to equitable service offerings. Given the lack of an established flexibility market for small-scale flex providers, and grant restrictions preventing us from benefiting domestic participants, the trials became focused on proof-of-concept, rather than the delivery and scale-up of financially sustainable service offerings. Nevertheless, we gained some valuable insights, and many of the insights gained from our ethical trial delivery are also relevant to the design of equitable services.

Principle 1: Collaborative design

We will design service offerings in partnership with the community in which they are to be delivered so everyone potentially impacted by the service can influence its design.

LEO learning:

- *There is huge value in involving community groups in the initial design of service offerings, but we need to be respectful of their time, and manage expectations if the scope of the service changes over time.*
- *Using a sequential, rather than a parallel, approach to on-boarding service users enabled the team to quickly build in feedback to improve the customer journey and service offering for subsequent users.*
- *Identify additional opportunities for those who might not be willing or able to test the service offerings to still participate in the trials, For example, by taking part in surveys, commenting on proposals, or by making a commitment to share the results of a service offering trial with the wider community.*

Principle 2: Inclusive offering

When we design a service offering we will seek ways to minimise the barriers to individuals benefiting from the offering.

LEO Learning:

- *Although no single flexibility service or offering will be suitable for everyone, the barrier-busting technique can be used to identify potential barriers to participation. The service offering can then be designed to build in barrier-reducing features, to widen participation and increase inclusiveness.*

Principle 3: Fair distribution of benefits and costs

The success of a service will depend on the efforts of many stakeholders. The value created by the service, and costs that arise, should be fairly distributed amongst these stakeholders.

LEO Learning:

- *Flex provision is not a simple transaction between two parties. There are multiple stakeholders involved in flexibility, all of whom can potentially derive benefit from increased active participation of users at the grid edge. Understanding the costs and benefits involved in the transaction therefore is more complex than a simple buyer–seller transaction. Often there are two ‘services’ to be considered when flexibility is mentioned:*

Service one: the provision of flex into the energy system.

Service two: the flexibility-enabling service, or 'route to market' which enables that flex to be unlocked.

- *For many at the grid edge, providing flexibility to the system is unlikely to be a core activity. We need to build flexibility services around the jobs that they want to do – not what we want them to do.*
- *The financial reward available may be very low, especially if the amount of flex any individual user can generate is small – which is likely to be the case especially in household settings.*
- *Financial reward alone is unlikely to be sufficient to drive the level of mass participation we may need, as evidenced by the poor uptake of tariff switching.*
- *Benefits are diminished by the cost of participation – identify those costs and how they could be reduced or removed.*
- *Many little actions added together can be significant – and being part of a collective effort can be a benefit in and of itself.*

Principle 4: Minimise risk

No one should be materially worse off as a result of the service. This does not preclude individuals being exposed to some level of risk through their involvement in the trial (e.g. financial), as long as it is with full information regarding the risk, participation is at their own free will, and should it arise the risk does not cause significant or lasting harm.

LEO Learning:

- *Encouraging the uptake of a service that may only exist for the lifetime of the trial put participants at risk.*
- *There is a tension between balancing the principle of inclusion with that of minimising risks. Communication about the trial needed to fully spell out the potential costs or downsides of participation.*
- *Think through scenarios where participation in a flexibility service could leave someone worse off financially and identify mitigation strategies.*

Principle 5: Informed consent

We will ensure the potential service users have adequate information, presented in a clear and accessible way, about the benefits, costs, and risks associated with using the service to make an informed decision about participation. Including influencing decisions around the wider infrastructure.

LEO learning:

- *See trials principle 6*

Principle 6: Respect

We will treat all those affected by the service with respect and sensitivity.

LEO insight:

Spending time to think through and design clear customer journeys makes the process of participation as easy as possible for service users, and is respectful of their time and effort.

LEO learning:

- *Things go wrong – it's what you do next that matters. For example, be as honest and transparent with participants as possible; keep participants informed, resolving issues as quickly as possible; say sorry.*

Principle 7: Data fairness

We will be open and transparent about the data we are collecting through the use of a service, how it will be used, managed, owned and shared, and seek informed consent from service users.

LEO learning:

- *Thinking through the General Data Protection Regulation (GDPR) implications of each service offering and its associated trial is complex because of the multiple parties involved in both the collection and analysis of results.*
- *Creating your data consent form can help you think through the purpose for which data was collected and the role of each party with whom it would be shared.*
- *Making data consent forms jargon-free and easy to understand can be challenging.*
- *MPANs cannot be used as a way of anonymising participants because they can be used to identify participants directly.*
- *It is hard to balance between providing full explanations of the way in which data was being collected and used, and the degree of tenacity required by potential participants to wade their way through all that supporting information before signing up to a trial.*
- *The data required is not always accessible or immediately available, even if participants were happy to share it. For example, smart meter data is only half hourly and it took some time to understand how it could be assessed without having to involve the energy supplier.*

Due to their innovative nature, and lack of access to established flexibility markets for participants, the Smart and Fair Neighbourhood trials focused on proof-of-concept rather than roll out of services.

This meant Low Carbon Hub were unable to fully test these ethical principles for service offerings in the way initially envisaged. Nevertheless, they proved a useful touchstone as we developed and trialled three service offerings. This experience has strengthened the belief that inclusivity and fair distribution of costs and benefits need to proactively be built into the way we develop flexibility markets and service offerings if we are going to achieve high levels of sustained delivery of flexibility at the grid edge.

Part 2: From LEO to LEON

a. Introduction

The Project LEO report: *D3.10 Companion Piece: Designing Smart and Fair Neighbourhood Trials Ethically* documents our experience of putting our ethical principles into practice, both in the delivery of the trials and in the design and delivery of equitable local energy service offerings.

Our experience highlighted the importance of:

- Accessibility of language and terminology used
- Clarity of roles and scope of the project
- Ensuring a collaborative process throughout
- Taking communities on the journey with us
- Mitigating any potential risks to communities or individuals

It highlights the principles and practices that we followed and sets out the key take-homes from the process and shares some of the challenges that were experienced on the way. We end with some conclusions as to how we delivered on our principles, delivering valuable insights and learnings for future trials and potential service offerings.

Through LEO-N we are capitalising and building on this learning.

b. Why grid edge co-ordination and smart energy solutions matter

In LEO-N Alpha *D2.3.3 Grid Edge Coordinator Role Straw Model* we set out in detail the need for an organisation or organisations to fulfil a Grid Edge Coordinator role in order to address the coordination and delivery gaps between strategic Local Area Energy Planning (regional or greater geographical scope) and fair, participative and efficient decarbonisation at the grid edge, where households and businesses use energy.

In summary, the Grid Edge Coordinator role can maximise the beneficial outcomes for households and businesses, directly and through indirect system efficiency, by:

- Joining up hyper-local, community-led action with regional, local-authority-led Local Area Energy Planning.
- By filling a gap in relevant knowledge, skills, access to resources and relationships that are needed by a community that wants to take an accelerated, local, place-based approach to energy system decarbonization.

- By having trusted relationships with local communities that want to be proactive about decarbonisation and facilitating meaningful engagement between those communities and key energy system actors. Therefore, gaining legitimacy to act as a change agent with and for the community.
- By acting as a mediator between a network operator and a community to deliver network management efficiently and effectively.
- By delivering a service to help a community create a Community Action Plan for Net Zero.
- By being commercially-minded, nimble and free to engage local stakeholders, such as businesses and landowners, in order to develop proposals for projects to the point that they are owned and (if possible) implemented by appropriate third parties.
- By shaping innovative services that deliver direct network benefits such as Smart Community Energy Schemes and piloting them in suitable real-world trials.
- By sharing data and coordinating interaction between the strategic net zero coordination activities and actors (such as participation in Local Area Energy Planning governance and processes) and the tactical coordination activities the Grid Edge Coordinator organization is involved in (i.e. the services delivered).
- Through these mechanisms, giving communities a stronger voice: strengthening their representation with public bodies, and enabling access to commercial benefits of scale, whether in regards to access to finance products, bulk buying, creation of virtual powerplants or project delivery coordination.

Taking each of these points in turn we explore how they relate to fairness. A summary of how each point relates to fairness of outcomes, process and treatment is given in Table 1.

Joining up hyper-local, community-led action with regional Local Area Energy Planning

With the best will in the world, neither local authorities nor the Future System Operator can develop Local Area Energy Plans (LAEPs) or act as Regional Energy Strategic Planners (RESPs) at a neighbourhood-by-neighbourhood level. The resources simply don't exist to allow these organisations to maintain the strength and number of relationships with communities that would allow them to do this.

It is equally true that that a solely bottom-up approach would be unlikely to handle regional and national strategic planning needs (such as network investment or regional transport planning).

Neither extreme is fair, but a whole system approach in which different “coordinating parties” act where they are most efficient and effective can maximize fairness by ensuring that the best information, gathered at the right level is available as decisions are made about the allocation of resources and investment in the energy system.

Filling a gap by providing the relevant knowledge, skills, access to resources and relationships that are needed by communities

Highly mobilised and expert community groups or organizations are rare, but driven, organized and committed communities are not rare. Tapping into their drive and ability to

galvanize the mass participation needed to decarbonise requires an “equity intervention”. The Grid Edge Coordinator role makes expertise, knowledge, skills (such as energy system data analysis and interpretation) and access to resources and relationships available i.e. it enables both opportunity and capacity to participate actively in the transition to a decarbonized energy system.

Having trusted relationships with local communities and facilitating meaningful engagement between those communities and key energy system actors

By acting as a mediator between a network operator and a community to deliver network management efficiently and effectively

Fairness is strongly linked with trust. Without trust in the key decisions that are being made about how our communities and lives will change in the transition to net zero, we are unlikely to gain the mass participation needed, we will see more resistance to change and we are less likely to hear from those with specific needs or those who are vulnerable.

Network operators are not known to the vast majority of householders or businesses, energy Suppliers are not trusted by consumers and while local authorities are more likely to be considered trusted, as above they are not resourced to undertake neighbourhood-by-neighbourhood engagement. Local authorities are also conflicted when it comes to their statutory roles in Planning; and they are constrained by procurement regulation when it comes to being able to take a nimble, commercially-minded approach to problem solving in a specific location or for a specific project.

A grid edge coordinator by definition must be fulfilled by an organisations that has, and can maintain, trust.

A grid edge coordinator must, also be by definition, be making the expertise and resources available to a community. It is therefore able to take on the role of “translator” which is important for achieving fairness – as described in Part 1.

Delivering a service to help a community create a Community Action Plan for Net Zero

A Community Action Plan for Net Zero places the community’s desire to drive change at its heart. It gently forces the question of what specific, tangible next steps are in a way that district or county level Local Area Energy Plan often remains high-level and vague. In this way the grid edge coordinator directly addresses the recognized “delivery gap” between plans and operational projects.

The next steps sections of council-level LAEPs tend to include recommendations for further scoping to be commissioned by the local authority. These kind of actions may be important and urgent, but they do not speak direct to communities nor do they empower them: instead they retain control with institutions which, even if generally trusted, does not engender increased trust.

Table 1: How the ways in this the grid edge coordinates delivers relate to different aspects of fairness

What a Grid Edge Coordinator does...	Fairness of outcomes	Fairness of process	Fairness of treatment
Joining up hyper-local, community-led action with regional Local Area Energy Planning	All actors have access to appropriate system wide information (bottom-up meets top-down) enabling them to take the wider system, and hence others' needs, into account in their decisions and therefore the outcomes	Increases representation and the strength of a community's voice in the net zero transition.	Greater provision of information to communities affected by the net zero transition.
Filling a gap by providing the relevant knowledge, skills, access to resources and relationships that are needed by communities	More options for decarbonisation and solutions to barriers are likely to be found by not assuming different communities can be treated similarly.	This is an "equity intervention" that enables communities to access and inform the transition to net zero.	Greater and more meaningful interaction with households and businesses is enabling by taking a more granular approach to engagement.
Having trusted relationships / Acting as a mediator between a network operator	Meaningful engagement is more likely to lead to fair outcomes compared to remote/one-size-fits-all consultation.	Trust is critical to a fair process, otherwise participation is undermined	Fair treatment is the flipside of the coin to trust.
Delivering a service to help a community create a Community Action Plan for Net Zero	Creates actions that communities can drive forward and gives them more control of the outcomes.	Creates a process that is designed with community action at its heart.	Steered by local community and draws upon their lived insights of local needs with regards to both decarbonization action and inclusive engagement.
Being commercially-minded, nimble and free to engage local stakeholders, such as businesses and landowners,	As described above, this function of the grid edge coordinator could, if not practiced carefully, lead to both unfair as well as fairer outcomes, process and treatment.		
Sharing data and coordinating interaction between the strategic net zero coordination activities and actors	This is also a function for which poor development of the eventual processes, and any digital platforms, could have negative outcomes for fairness. It is therefore important that fairness and engagement, say through phased trials, are built into this system innovation.		
Through these mechanisms, giving communities a stronger voice	The insights, lessons and outcomes of tapping into community-drive for net zero will benefit wider communities – even where there isn't a strong, organized and community-led initiative for the energy transition – thanks to the lessons learned and solutions identified by the most active communities.		

Being commercially-minded, nimble and free to engage local stakeholders, such as businesses and landowners

There are good reasons why public bodies are constrained when it comes to their ability to work alongside businesses and private third parties: it is essential that public funds and resources are allocated fairly and not used to give an advantage to one business or individual over another.

This means however that, for example, local authority officials come across situations in which they could, in theory, facilitate the delivery of decarbonisation projects by connecting land or property owners with suppliers of relevant goods and services, or introduce them to new business models. It isn't impossible for public bodies to step into this space, but their officers do have to be very careful and this can be prohibitive when it comes to lending expert resources to communities.

In Project LEO an emergent insight was that there was value added by an organization, with energy sector expertise and experience, that could be commercially-minded and nimble in how it explored opportunities. If nothing else, being able to quickly rule options out creates efficiency as it focuses the efforts of the community and public or regulated bodies to focus their attention and limited resource where it is most effective.

On this point there is a trade-off for the grid edge coordinator:

- To add value through its ability to be nimble and engage businesses and individuals on the specifics of a commercial opportunity
- To ensure that this is done fairly and without risking the trust it has with the community and other energy system actors such as local authorities

In particular:

- The grid edge coordinator must never be, or be seen as, a “work around” to public sector due process
- If an organization acting as a grid edge coordinator is being paid by a public sector organization, it's activities within the scope of the commission must be undertaken within the contractual terms – which will likely include the application of public sector rules for procurement and subsidy control

By shaping innovative services that deliver direct network benefits such as Smart Community Energy Schemes and piloting them in suitable real-world trials.

The development of new, innovative services to enable peak management is critical to achieving network operational and financial efficiency, and hence improving affordability for customers. Peak management services can also enable consumers of energy to access rewards for demand shifting or reduction.

However at the current stage of piloting these new services there are trade offs to be balanced – and the ethical principles and toolkit help practitioners to manage this situation. A grid edge coordinators applying the toolkit is critical in order to have these services at all *and* to ensure they are designed for maximum impact for everyone.

Sharing data and coordinating interaction between the strategic net zero coordination activities and actors

As for “hyper-local, community-led action with regional Local Area Energy Planning”, sharing data and coordinating interaction with strategic net zero coordination activities and actors can increase fairness in outcomes, process and treatment.

Here the focus is particularly on data sharing (possibly via a digital Local Area Energy Planning platform) and the process of interaction (for example by having a role within the regional Local Area Energy Planning Governance arrangements).

Again this is a point that is flagged as much for the attention that is needed to develop these processes in a fair way i.e.:

- The eventual process is fair
- The way in which the process is developed is fair

Project LEO, and other trials and studies, have identified that concern about data (general personal data and energy data) is real – especially for householders. There is likely an *a priori* distrust of any organisations seeking permission to access or share data relating to the net zero transition and handling this poorly could further undermine trust and hence fairness.

Through these mechanisms, giving communities a stronger voice

This speaks to a core way in which all of the activities of the grid edge coordinator lend themselves to increasing fairness of outcomes, process and treatment (if possible negative impacts are designed out as discussed above). Ultimately the outcomes will be fairer when we increase the ability of the communities, households and businesses, that will be affected by the transition to net zero are able to participate and drive local-level changes themselves.

The insights, lessons and outcomes of tapping into community-drive for net zero will benefit wider communities – even where there isn’t a strong, organized and community-led initiative for the energy transition – thanks to the lessons learned and solutions identified by the most active communities. This is especially relevant to the process by which new products and services for net zero are developed: were for example it is important to design in the needs of vulnerable or outlier households and businesses, but it would not be appropriate to test risky innovation with those people. We will discuss this further below with respect to Smart Community Energy Schemes.

c. Smart Community Energy Schemes

The energy transition is a learning curve and, as discussed above, there is a critical point of fairness, particularly inclusion, when it comes to the way in which new low carbon projects and services are developed.

In Project LEO¹ we defined Smart Community Energy Schemes (previously referred to as “Communities of MPANs”) at a very high level in order to avoid building in assumptions about how they might be realised:

“A collaborative scheme between energy system users who co-ordinate the way they consume, generate, and store electricity, and manage their allocated capacity in the system to maximise the benefit to the community, other customers, the network and the system.”

The purpose of the Project LEO Smart and Fair Neighbourhood trials was to identify and trial ways of enabling households, businesses, and communities at the Grid Edge to accommodate the transition to net zero into their daily lives in a way that might benefit them as individual householders or business owners and/or as members of a local energy community. We wanted to learn from the trials what the repeatable models are, i.e. that are technically feasible, commercially viable and socially desirable.

In LEON we have built on Project LEO to highlight how the interests of communities and the distribution network operator are aligned:

- The network operator wants to “touch the network once” in the next 50 years: meaning that it only reinforces each substation once and that the reinforcement is future proofed on that timescale. This means that the network operator needs to accurately forecast load growth down to the low voltage level and in particular to have confidence that the network can handle the “peakiest peak”.
- Communities want reliable, affordable and clean energy. They also want a say in what happens in their communities. That could be a say in how the revenue from local generation can directly benefit their community (instead of being extracted as profit by private individuals). Or, it could be an influence and understanding of the decisions that lead to disruption on their street as the network is upgraded.

These needs can be met through the application of demand reduction and demand flexibility solutions *if they are coordinated in order to maximise fairness, participation and efficiency.*

We know from the 45+ mobilised community energy groups in Oxfordshire² that individuals and communities are increasingly motivated to ‘do their bit’ in enabling the energy transition and want Project LEO helped to answer the question, ‘What can I do that helps?’. There is also a very strong desire for local people to be able to buy the energy generated from local renewable energy installations directly or through their local energy supplier; people are often very surprised that the system does not currently allow them to do that. Conversely, we know there is a large section of the

¹ Hammond and Middleton (2021) Project LEO D3.8 Community of MPANs. As accessed March 2024. Available from: <https://project-leo.co.uk/wp-content/uploads/2022/09/D3.8-Community-of-MPANs-Concept-and-Implementation.pdf>

² Also reflected in national experience for example the community energy organisations represented by Community Energy England and Community Energy Scotland. There are also organized community initiatives that have arisen in response to local development of generation assets, especially in Scotland, and which were mobilized to channel community benefit funding secured (or required) from developers.

population with no knowledge or motivation around these issues. However that isn't to say that those stakeholders wouldn't like to see the same benefits arise.

In LEON we have explored the use cases for a Smart Community Energy Scheme and what operational components are required. We have also looked at the potential routes to market.

In Project LEO we demonstrated that DNO (or DSO) flexibility markets are, currently, not a suitable route to market. This was primarily due to: 1) the effective price cap in that market (DNO's are not allowed to procure flex at a price higher than network reinforcement) and 2) the uncertainty regarding the total revenue in that market (utilisation of a service is too low). As a result the revenue is too low and uncertain to justify investment in new assets – it is a bonus on the value stack of existing grid-scale flexibility assets or existing industrial/commercial sector demand response.

The national-level Demand Flexibility Service isn't appropriate because it is designed to address transmission level constraints, not peak management at the secondary or primary level.

Therefore, in order to enable local balancing at the primary substation level or below, a form of local energy trading is needed. There are currently two nascent routes to market: UrbanChain and Complex Sites Class 5. We will not set out these routes in detail in this report. The key point that is relevant to engagement and inclusion is that this is a context of innovation. This raises many of the concerns and considerations that we faced in the Project LEO Smart and Fair Neighbourhoods projects and which our ethical principles are designed to mitigate. It also means that we remain in a context in which real-world trials to develop a Smart Community Energy Scheme may well be best carried out with existing, mobilised community energy groups – that have the capacity and capability to understand and sign up to the potential disbenefits (such as disruption, asks of participants time to provide feedback or to test out equipment and processes). At the same time this inherently means that we are narrowing the field for participants and risk designing services that aren't as accessible and inclusive as we would like.

Active measures, which the application of the ethical principles and the toolkit provide for, are therefore needed in LEON Beta to ensure fairness in both the delivery of trials and the eventual resulting design of services.

d. Approaches to Beta Design: Site and trial selection for LEON

The grid edge coordinator and smart community energy scheme services that we intend to develop in our LEO-N Beta phase can play a critical role not just in achieving and accelerating decarbonisation, but in ensuring the transition creates a resulting energy system with greater equity and fairness.

The context for this innovation is a complex system. We are innovating at the same times as others to transition to a decarbonised energy system. The system itself is already complex with multiple actors, technologies, commercial considerations and social value and impacts. It is a context of “unknown unknowns” in which the appropriate approach is one of hypothesis, trial, evaluation and development.

Throughout our Discovery and Alpha phases this is the approach we have taken by using the “Minimum Viable System” technique that was developed in our predecessors Project LEO and TRANSITION which successfully established an operational end-to-end process for SSEN’s DSO Flex Market. The approach started with desktop-based exercises, role-playing workshops through manual dispatch to an increasingly automated end-to-end process for flex contracting and dispatch.

In LEON we will develop the innovations (see next slide), to an operational level, in a similar way. While some of the developments, such as the digital LAEP platform, take place in a virtual environment, real world, place-based trials are still critical to ensure that the design of the innovation meets the needs of the whole system.

We have identified four community use cases that are relevant to grid edge coordination in general and we have identified specific community-driver use cases for smart community energy schemes. We will continue to test and refine these use cases as we test and refine the value propositions of our services.

If we are successful in securing funding, our ethical principles will be applied throughout LEO-N Beta to identify and mitigate risks for participants. For example: ensuring that participants will not be financially worse off as a result of taking part; and, highlighting all the possible disbenefits in the sign-up information to ensure participants can make an informed decision. As well as our ethical principles, the partnership will apply SSEN’s established toolkit for assessing project risk and identifying mitigations.

In our LEO-N trials we will work directly with community members who then engage, with support from us, with their wider community.

Our experience from Project LEO tells us that when it comes to the energy transition, a big part of our role is to build the capability of these community leaders to understand and feel confident talking about the energy transition. This is especially true when it comes to flexibility services and demand shifting.

We have therefore prioritized communities that already have organized community energy groups.

For the selection of Smart Community Energy Scheme trial locations we identified candidate locations based on our knowledge of the use cases and communities and then involved those communities in our MVS activities. With this approach we gave the communities first-hand experience of working alongside the partners and beginning to identify the issues that we will need to tackle in the Beta phase.

We will be proactive in seeking constructive challenge, early in our process, to maximise the benefits for everyone. Low Carbon Hub undertook an “intersectionality” workshop facilitated by a leading researcher in the field of inclusivity and smart energy systems during LEO-N Alpha and we will apply the techniques learned as well as continue our organisational development in this regard. We will investigate appropriate ways to invite diverse voices or representatives of vulnerable groups to a project delivery advisory group.

e. Recommendations for LEO-N

The key recommendations to take forward in LEO-N are:

- Dissemination of the toolkit and practitioner training across all partners and wider stakeholders – in particular the “cohort” of Local Area Energy Planning officers and employees in the local authorities and network operators.
- Dissemination of the toolkit beyond the partnership, for example via: Community Energy England; the Net Zero Hubs; the ENA Community Energy group; the Net Zero Living Demonstrator / Pathfinder Places cohort events etc.
- Review and refine the toolkit through reflective practice by partners in LEO-N Beta
- Inclusion of the ethical principles in the LEO-N Beta Partnership Agreement – as has been previously implemented in partnership agreements including Low Carbon Hub, Oxford City Council, University of Oxford and Oxfordshire County Council.
- Detailed design and delivery of LEO-N trials as described in Section f above.

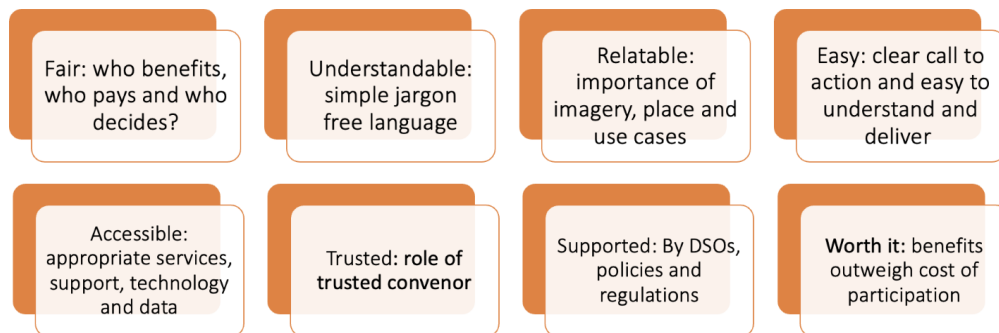
Part 3 Grid edge engagement: The Playbook

Designing inclusive and participative services

Project LEO – Local Energy Oxfordshire – was one of the UK’s most ambitious, wide-ranging and innovative energy trials, seeking to accelerate the UK’s transition to a zero-carbon energy system. The project ran trials across Oxfordshire which looked to build a broad range of reliable evidence of the technological, market and social conditions needed for a greener, more flexible, and fair electricity system.

As well as exploring technical aspects of the energy system, Project LEO explored approaches to increase engagement, participation and inclusion in the transition to net zero. We identified eight key conditions that need to be met to maximise participation in a service.

Maximising participation



The project team also set out ethical principles to guide the delivery of trials and services. In the process of putting these principles into action we developed and adapted a number of tools to increase participation in our trials, and create desirable, and inclusive service offerings.

Project LEO Principles for...

An equitable local energy service offering

- Collaborative design
- Inclusive offering
- Fair distribution of benefits & costs
- Minimised risk
- Informed consent
- Respect
- Data fairness
- Continuous improvement

Ethical trial delivery

- Clarity of scope
- Collaborative design
- Inclusive participation
- Do no harm
- Rewarding experience
- Informed consent
- Respect

In this playbook we pull together the key techniques we used to be a resource to use in LEON and with others.

We also reference other techniques and resources developed by others to help those interested in supporting the development of a smart, and fair, energy system. This is not a comprehensive digest of all the other resources out there. We also anticipate we will continue to develop and refine our tools and techniques, so can add to the playbook over time.

Tools and techniques: an overview

The playbook includes simple 'how to' guides for tools and techniques relating to five key areas. A summary of each of the tools is listed below, as well as suggestions for third party resources, guides and further reading.

1. Stakeholder mapping

Stakeholder mapping helps you identify and categorise individuals and organisations with an interest, or stake, in your project.

a. The LEO Power-Change Matrix

A technique to help identify and categorise stakeholders according to the degree to which the success of your project needs their buy-in, and to what degree its delivery requires them to change from business as normal.

Useful for:

- Identifying the relationship between different stakeholders and your project.
- Identifying which stakeholders must be on board for a project to be successfully delivered.
- Identifying the purpose of engagement with different stakeholders.

Other resources and tools to explore:

Mendelow's Matrix

An alternative stakeholder mapping tool, which segments stakeholders based on the power they have over the success of your project, and their relative interest in it.

Arnstein's Ladder

A useful guide to seeing who has power when decisions are made and creates a ladder of degrees of citizen participation – ranging from level 1 Manipulation (non-participation) through to the 8th level Citizen control. It provides an opportunity for honest reflection as to the degree to which citizens are involved in an activity.

<https://citizenshandbook.org/arnsteinsladder.html>

RACI: Responsible, Accountable, Consulted, Informed

The RACI matrix provides a useful project management tool to help identify who is responsible, accountable, to be consulted, or to be informed during a project's completion, and their differing degrees of influence. You can read more in [this article](#).

DARE: Deciders, advisers, recommenders, execution stakeholders

An alternative framework to RACI, which overcomes some of its pitfalls, is set out in this [McKinsey article](#): Limits of RACI – and a better way to make decisions.

2. Defining your audience and market

Different people have different needs and motivations. Having a clear understanding of who your core audience is in any situation means you can tailor your communications to match their interests. Similarly, market segmentation – the process by which you divide the potential market into groups with shared interests, needs, or characteristics – enables you to tailor your service to meet the needs of that market.

a. Pen portraits

Pen portraits, or persona, can be incredibly useful when starting the process of designing a service or product, or developing communications messages. These informal descriptions help you visualise and connect with your core audience(s). They can be used with both individual and organisational audiences.

Useful for:

- Bringing your key audiences to life.
- Humanising your target audience to make them relatable.
- Tailoring communications by thinking what really drives the persona you create.
- Thinking through the needs of a key persona to inform service and product design.

b. Propensity characteristics: domestic and non-domestic

We have developed two propensity characteristic frameworks that set out the characteristics, or capabilities, that households or SMEs might have which could impact on their ability to fully participate in an energy-related activity. These build on the work of the Centre for Sustainable Energy (CSE) in developing their [Smart and Fair: Offer Profiling Tool](#).

Useful for:

- Propensity analysis – exploring which characteristics help define those with a propensity to use an existing service.
- Audience segmentation – the most successful products and services are those designed to meet the needs of a very specific, and narrow target audience.
- Helping energy flexibility service providers assess the capabilities required to use a particular service – and who might be excluded from using it.
- Understanding what additional support might be needed to help people gain the capabilities needed to be able to benefit from a particular service.
- Profiling the characteristics of a target audience, to gain insights as to which local energy offering might be best suited to a defined audience.

c. Use cases

Use cases are a method initially introduced as a way of representing how and if an application should interact with the real world, but can be used more generally to set out the way a particular product or service can be put to use.

Useful for:

- Defining the way people and technology interact, or any two or more actors.
- Thinking through how a potential technology solution may actually be used.

- A user-focused use case starts from the perspective of a potential group, and understanding the objectives they wish to achieve.
- Helping those developing a product or service understand a system's functions from the viewpoint of a specific user.
- By focusing on *what* a technical solution does, rather than *how* it does it, use cases create scenarios that can be related to by all the stakeholders – both technical developers and users.
- They help ensure all stakeholders can understand, and agree on, what a user needs a service needs to do.

Other resources and tools to explore:

CSE's Smart & Fair Offer profiling tool

<https://www.cse.org.uk/resource/smart-fair/>

Industry Archetypes:

Centre for Sustainable Energy have developed two sets of consumer archetypes to enable better policy design and decision making. Neither are currently in the public domain.

ESO Archetypes:

The 18 archetypes were produced to inform their Future Energy Scenarios (FES) modelling. The archetypes were produced by splitting the Smart Energy Research Laboratory dataset by the following characteristics considered to have the largest impact that determines daily energy usage patterns:

- Presence of Solar PV
- Electric vehicle (EV) ownership
- Type of central heating system (e.g. electric storage, oil, mains gas)
- Number of children
- The head of the household is aged 65+

These were then mapped to Local Super Output Area (LSOA) level to help map the time and location of energy demand peaks.

Ofgem

CSE created 24 archetypes derived from the Living Costs and Food (LCF) Survey, supplemented with the Ofgem Consumer Engagement Survey and the English Housing Survey. The archetypes created are Ofgem's Distributional Impacts Model. This model assesses various policies (including the price cap changes that have rocked consumers for the last few years) through their impact on the different archetypes.

3. Creating value

Marketing involves creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organisation and its stakeholders. If you understand what benefits a target customer most values, you can then design your service to deliver maximum value in exchange for participation.

a. Value proposition canvas

The value proposition canvas is one of a range of innovation tools produced by Strategyzer as part of their innovation platform for marketing experts, product owners and value creators. We have used the canvas to explore the potential for retrofit and 'futurefit' services to create value for domestic and organisational customers. Tailoring your service to meet the specific needs of a particular customer increases your chance of success.

Useful for:

- Identifying the specific needs of a target segment, and designing your service to best meet those needs.
- Considering product design from the perspective of how it meets your customers' needs, not what is technically feasible.
- Narrowing down product features to those most valued by users of the service.
- Turning 'features' of a technology into 'benefits'.
- Creating a hypothetical understanding of the value your service could deliver to customers, which you can then test with potential customers.

b. Tiered benefits mapping

In an energy systems context, the value that is created and exchanged can be wider than a simple 'customer-seller' exchange. In Project LEO we demonstrated how flexibility services have the potential to deliver a wide range of direct and indirect benefits to system users, the network operators and the wider community. Our tiered benefits template encourages service developers to consider the wider societal and system level value that is delivered by users in exchange for the benefits they receive when using a service.

Useful for:

- Considering the roles a system user may play in relation to more complex 'energy system' services.
- Identifying benefits they may gain in relation to those wider roles they are playing.
- Flexibility and Smart Community Energy Scheme services where there may be multiple services at play.
- Putting system user benefits into the context of the wider community and energy system.

Other resources and tools to explore:

Benefits v Features

It can be easy to assume a potential service user can translate technical features into the way it will meet their needs and benefit them. We need to help them with that translation by spelling it out. A simple technique to turn the features of a service or product into benefits is to add “which means that...” to a features statement.

For example: A window is a glazed opening in a wall – which means that - you can have natural light and see the view from the comfort of your own home.

Co-benefits

The term co-benefit refers to any additional social, economic, health and environmental benefits arising from carbon reduction programmes other than carbon savings. University of Oxford’s Environmental Change Institute’s report: *Building Stronger and Fairer Communities* sets out the wide range of co-benefits that might be delivered at a community level by carbon reduction programmes.

<https://www.eci.ox.ac.uk/sites/default/files/2023-10/Building-stronger-fairer-communities.pdf>

4. Increasing participation

We need mass participation and uptake of services if we are to deliver a locally balanced energy system at sufficient scale. These techniques help us consider what is stopping people from participating, who is being left out and what might be done to make services more inclusive.

Just because someone has the necessary characteristics or capabilities required to participate in a particular activity or service, doesn’t mean they will. There are several other factors at play that may prevent someone from using a service.

a. Identifying costs of participation

The costs template helps identify the financial and non-financial costs that a participant may have to expend in order to use a service.

Useful for:

- Identifying the possible cost of participation in an activity, which needs to be considered alongside the benefits or value created, to understand if a participant is likely to consider the benefit offered by an opportunity as outweighing the costs.
- Developing mitigation strategies to reduce costs to make participation more attractive.

b. Barriers and competitors

The barriers to participation template helps tease out what might cause friction along your customer journey from initial interest to sustained participation.

Thinking about competing behaviours can help you consider what competing activities, influences and behaviours might be vying for attention with your service. This may be much more than simply an alternative provider of a similar service – from other calls on available budget to peer pressure preventing action.

Useful for:

- Identifying barriers that may prevent participation along the user journey.
- Developing mitigation strategies to reduce barriers to make it easier to participate to increase uptake.
- Reducing barriers to participation can also help make a service more inclusive.
- Identifying competitors which distract or divert potential participants away from the behaviours you would like them to exhibit.
- Developing counterarguments to common competing behaviours.

c. The equity pause

We want to create a zero-carbon energy system that is fair, participative and efficient. As we set out in Section 1, being fair is not only the right thing to do, but also necessary if we are to achieve the level of participation at the grid edge to support the transition to a net zero.

The concept of the 'equity pause' is to make sure at every step of service development we consider fairness of outcomes, fairness of process and fairness of treatment.

Useful for:

- Thinking through how the costs and benefits relating to an activity are distributed, and how this can be done more fairly.
- Identifying who may be excluded from using a service, opportunities to broaden participation or find alternative services that meet their needs.
- Identifying whose voice is not in the room and considering how they might be involved in decision making.
- Thinking through how we design products to ensure we do no harm, respect service users and achieve informed consent.

Other resources and tools to explore:

AIDA

You can read more about the [AIDA marketing model here](#).

Citizen's Advice

[Powering up participation: A guide to making smart energy technology more inclusive - Citizens Advice](#)

Intersectionality

Intersectionality is a critical framework that provides us with the mindset and language for examining interconnections and interdependencies between social categories and systems. A concept developed by Kimberle Crenshaw in 1989 it relates to how gender, race, class and other social categories intersect and interact with individual experiences, societal norms, institutional structures and cultural ideologies.

Low Carbon Hub took part in two workshops with Nickhil Sharma, UEA to explore how complex sociotechnical dynamics are considered while evaluating justice considerations in relation to the energy system transformation.

Further reading about intersectionality and research tools such as the intersectionality web: [Methodology and methods for collecting EDI materials, Atewologun and Mahalingam, 2018](#)

Technology Interoperability and data access and sharing

A technical barrier to participation relates to the interoperability of Low Carbon Technologies and access to data. The LEO-N Alpha report D2.4 Future Fit, and in particular Appendix 2 Interoperability report, explores this further.

5. Customer protection

The provision of energy is an essential service and as such is heavily regulated and the industry has adopted voluntary codes of conduct, often focused on the protection of vulnerable customers. However, the rapid changes our energy system is undergoing creates new opportunities – and new risks – to users of the system, and new guidance is needed.

a. LEO report: Designing Smart and Fair Neighbourhood Trials Ethically

Fairness of treatment was a theme that underpinned many of the ethical principles we applied in Project LEO. You can read more about our experiences of putting principles of informed consent, data fairness, respect, doing no harm and minimising risk into practice here:

[Designing Smart and Fair Neighbourhood Trials Ethically - Project LEO \(project-leo.co.uk\)](https://www.leo.co.uk)

Useful for:

- Gaining insights from our first-hand experience of delivering ethical trials and equitable services in the real world.

Other resources and tools to explore:

Home safe: Giving customers confidence in low carbon technologies

Citizen's Advice have proposed short- and long-term customer protection measures to give consumers confidence to engage with low carbon technologies.

<https://www.citizensadvice.org.uk/policy/publications/home-safe-giving-consumers-confidence-to-install-low-carbon-technologies/>

Home Flex Code of Conduct

A voluntary code of conduct where participating Flexibility Services Providers agree to work with customers in an honest and transparent manner, providing evidence of product benefits and fair contracts. The Code sets out common standards of practice for organisations delivering Energy Flexibility Services to domestic and microbusiness Customers, encouraging good practice and accountability.

<https://www.flexassure.org/homeflex>

A flexible future: extending the benefits of energy flexibility to more people

Research from Citizen's Advice, that unpacks the barriers that many households are likely to face to participating in energy flexibility.

<https://www.citizensadvice.org.uk/policy/publications/a-flexible-future-extending-the-benefits-of-energy-flexibility-to-more-people/>

Smart and Fair Programme

The Centre for Sustainable Energy's Smart & Fair programme focuses on the capabilities consumers need to participate in and benefit from the smart flexibility energy system. You can read more about the programme [here](#).

In their February 2024 report [Working with the Smart Energy Capability Lens](#) they summarise the work they have been doing to improve market monitoring, develop smart energy advice, and evidence how different consumers are able to participate in and benefit from the transition to a smarter, greener energy system.

Regulatory Assistance Project (RAP)

An independent, global NGO working toward a clean, reliable, equitable and cost-efficient energy future. Their report [Flex-ability for all: Pursuing socially inclusive demand-side flexibility in Europe](#) identifies strategies to help lessen inequities by improving access to the benefits of a clean energy system for lower-income and vulnerable households through demand-side flexibility.

Ofgem consumer vulnerability strategy

Ofgem works to protect energy consumers, especially vulnerable people, by ensuring they are treated fairly and benefit from a cleaner, greener environment.

<https://www.ofgem.gov.uk/publications/consumer-vulnerability-strategy-2025>

Ofgem consumer standards

Ofgem have rules for energy suppliers that state they should:

- be easy to contact and contactable through different methods, for example email and phone at times that meet customer needs;
- offer debt repayment plans at the earliest opportunity and consider offering temporary debt repayment holidays, where appropriate;
- make it easier for consumers to see how good suppliers' customer service is by publishing information on their Citizens Advice star rating.

Although these relate specifically to energy suppliers, they also offer insights on principles that may be relevant to the provision of other energy services.

[Consumer standards decision | Ofgem](#) (includes a link to the guidance)

6. Communication for engagement

Good communication techniques can underpin meaningful engagement, and lead to increased participation. For all our communications we consider:

a. checklist for effective communication

Tips and guidance for communicating with purpose based on our experience of delivering Project LEO trials.

Useful for

- Honing persuasive and purposeful communications

Other resources and tools to explore:

Climate Outreach

Have a raft of resources relating to effective communication on climate change

[Climate Outreach](#)

We will continue to refine and develop these tools and techniques.