electricity north west

Bringing energy to your door

Community and local energy strategy

Consultation document

December 2017

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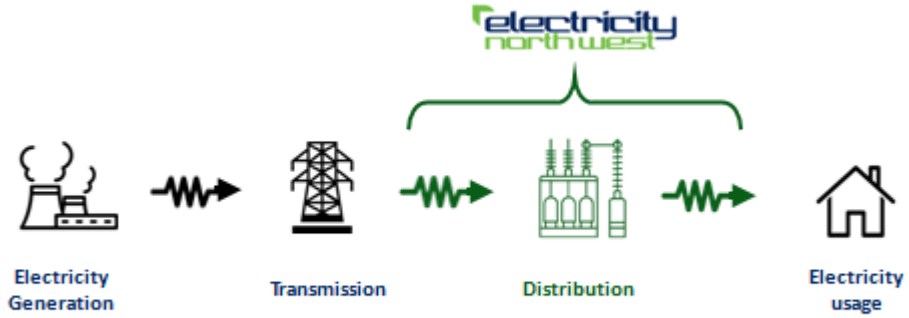
FORWARD - OUR COMMUNITY AND LOCAL ENERGY STRATEGY

Electricity North West owns and operates the electricity distribution network in the North West. The distribution network carries electricity from the high voltage transmission grid to industrial, commercial and domestic users.

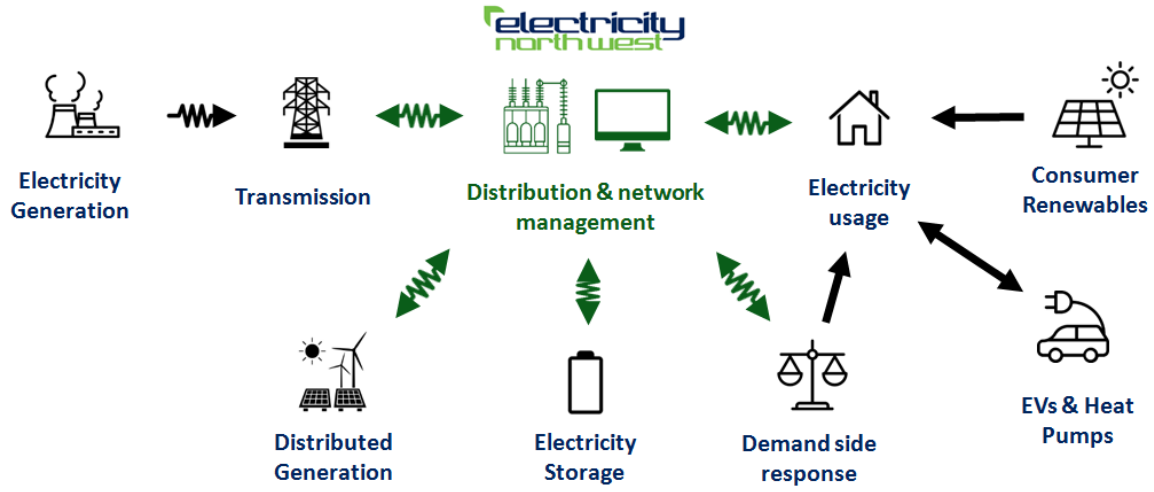
The UK energy system is undergoing a period of significant change. It is changing from a passive, one-directional system where power is produced in a few, large generators such as coal or nuclear power stations to an active, multi-directional one where power is generated at different levels within the system and individual users produce, manage and own generation assets as shown in Figure 1.

Figure 1: Showing the traditional electricity grid and how it is likely to change in the future

Traditional role of a distribution network operator (DNO):



New role of a DNO:



These changes are reflected in our network, therefore it is important that we continue to adapt our approach to enable further decarbonisation, whilst continuing to provide a secure and reliable service to our customers. To illustrate the scale of change we have already accommodated; in 2005 there were 256 generation connections on our network totalling 530MW, now there are over 3,500 with a combined total of 2GW. In addition there are a further 3GW of accepted connections that are not yet connected.

The changes in the energy system are being driven by a number of factors. Firstly, in order to meet government targets to reduce greenhouse gas by at least 80% by 2050, compared to 1990 levels there is an expectation that emission cuts within the UK energy system will have to be greater than 80%.

In the electricity sector, reductions will be achieved through:

- The introduction of low-carbon generation, much of it locally produced
- Energy efficiency
- Decarbonisation of heat and transport

Part of our role as network operator is to plan for this future. Here at Electricity North West we are preparing for the future in a number of ways. We are:

- striving to improve how we manage our network with new research, innovation and technology
- developing innovative new contracts to benefit customers
- continually taking steps to reduce energy usage and encourage our customers to use electricity more efficiently.

Much the region's infrastructure was developed in the 1950s and 60s and as such we have a strategic planning process for managing asset upgrades and replacements.

Our vision for the whole business for the next decade is to focus on customers' priorities of customer service, reliability, sustainability and affordability in the context of major long-term changes to the generation and use of electricity.

This document is part of a series of activities we are undertaking to engage community and local energy stakeholders with a view to gaining their input into the development of our *Community and local energy strategy*. In November 2017 we held two independently-facilitated community and local energy engagement events and we are also conducting a number of one-to-one interviews with stakeholders. Throughout this document there are questions to prompt your thoughts and opinions and at the end there is a link to the online survey form for your responses. The deadline for responses is 23rd February 2018 and we intend to publish the final strategy in Spring 2018.

However this is very much just part of the process and we want to continue the conversation to develop our relationships with community and local energy groups. We also welcome any comments related to this area and all comments can be sent to Helen.Seagrave@enwl.co.uk

We value your time and input very much and I look forward to reading your responses.

Steve Cox
Engineering and Technical Director
Electricity North West

Map showing Electricity North West's operational area including our 14 depots

1 WHAT IS COMMUNITY AND LOCAL ENERGY?

Community and local energy is a small but growing sector; in our area we are aware of a number of community energy groups with connected generation totalling about 20 projects deploying nearly 6.5MW megawatts. While these figures are still comparatively small, they have grown relatively quickly and we believe community and local energy has a significant role to play in shaping and delivering the changes that are taking place in our energy system.

There are many ways to define community and local energy and we recognise that it means different things to different people. We want a broad and inclusive definition whilst also providing a definition which brings clarity and is therefore useful to inform the discussion in the rest of the strategy. From our discussions with stakeholders so far there seems to be a consensus that community and local energy are separate.

There are a number of factors that define community energy and the groups we have spoken to so far feel strongly that these are important part of what community energy means to them:

- Community ownership and participation
- Community benefits from the scheme which are economic and social
- Low carbon generation or benefits
- Motivated by a range of issues which can include but are not limited to climate change, energy justice and collective action

Local energy does also have to have some benefit to local area but so far the feedback has been that this doesn't have to be as much as community energy.

Community and local energy groups have a range of ownership models; they can be community benefit societies, industrial provident societies, co-operatives, community interest companies or led by a local authority. This just illustrates the range of types of and models of community and local energy and also how their model is often shaped by their local aims and objectives. They often work collaboratively as they don't really compete for customers or projects as they mainly operate in separate geographies.

Our proposed definition of community and local energy is below and following this there are examples of existing community and local energy projects to give you a flavour of the projects that have already taken place across the region

1.1 Definition

To us community energy means community-led projects or initiatives to reduce, manage, generate or purchase energy. Community energy projects focus on engagement and benefits to their local area and communities.

Local energy encompasses community energy projects and also includes activities by a wider set of local partners such as local authorities, housing associations, intermediary or advisory organisations and local businesses. Local energy projects may have a commercial aspect to their delivery but are also likely to benefit their local area and community.

Oldham Community Power case study

Oldham Community Power is a community benefit society and is run by a board of volunteer directors, appointed by members. All money raised by generating energy is kept local, through returns to investors and supporting local projects.

Ownership of the installations is through community share issues, with priority membership given to the residents, charities, and businesses of Oldham in the case of oversubscription. Anyone purchasing a share becomes a member of Oldham Community Power, with a single vote given to all shareholders regardless of how many shares they own.

The society has installed and commissioned six solar photovoltaic (PV) generation sites:

- Five on schools; 29kW on Beever Primary School; 34kW on Mather Street Primary School; 50kW on Whitegate End Primary School; 46kW Blackshaw Lane Primary School; and 50kW Medlock Valley Primary School;
- One on a community building; 11kW Holt Street NEON Hub.

Oldham Community Power retains ownership of the schemes and the schools and community centre use the power at a price less than they were previously paying.

Oldham Community Power intends to continue raising finance and developing energy schemes for and with the local community in Oldham.

Community Energy Cumbria case study

Community Energy Cumbria Ltd (CEC) is an industrial and provident society (IPS) for the benefit of the community. Income from their schemes is divided between covering the running and maintenance costs of the projects, repaying the capital investment back to the shareholders as well as paying an annual interest to shareholders, then any surplus is made available for community and environmental projects.

Community Energy Cumbria is made up of a board of directors with relevant skills and experience, having been founded by Cumbria Action for Sustainability. The initial projects were made possible through close co-operation with the Canal and Rivers Trust, Co-operatives UK, Ellergreen Hydro Ltd, Lovesolar Ltd, Lakes Renewables Ltd, Lake District National Park. The company was set up and the share offer administered by Cumbria Action for Sustainability.

Community Energy Cumbria has developed two projects to date:

· A 152,000 kWh/pa Killington Reservoir hydro scheme where the income is sold directly to the grid;
· A 30kW PV solar array on Murley Moss, the Lake District National Park Authority's HQ where the power is used by LDNPA on site. It is believed to be the first National Park in the UK to purchase its green energy supply directly from the community.

Community Energy Cumbria owns and operates the assets and manages the leases or contracts for the offtake of the power generated. They are looking for new schemes to develop for the benefit of communities in Cumbria.

Whalley Hydro case study

Whalley Community Hydro is a community benefit society which owns a 100kW micro-hydro scheme at Whalley Weir is on the River Calder at Whalley, near Clitheroe, in Ribble Valley, Lancashire.

The cost of the installation and associated activities was £750,000. There is a guaranteed buyer for all the electricity and the Feed-in Tariff, indexed and guaranteed for 20 years. Funding was obtained for the development phase from DECC, NatureSave, Whalley Parish Council, Billington and Langho Parish Council.

The scheme started generating in November 2014 and profits from the sale of the electricity generated by the scheme has established a community benefit fund. The fund supports local sustainable development and carbon saving projects that tackle climate change, promote energy efficiency and reduce fuel poverty.

Civic quarter heat project case study

Manchester City Council (MCC) has appointed lead contractor Vital Energi to deliver a District Heating Network (CQHN) in the Civic Quarter. The combined heat and power (CHP) units within the energy centre generate electricity, whilst the boilers capture usable heat that is produced in this process to pipe it to a number of buildings in the city centre. The district heat network will connect the Town Hall extension and Central Library, Manchester Central Convention Centre, The Midland Hotel, One St Peter's Square, Manchester Art Gallery, The Bridgewater Hall and Heron House.

Manchester City Council is developing the network and the project is part funded by the national Heat Network Delivery Unit. It is expected that construction will start in spring 2018 if all necessary consents are received.

Consultation questions

1. **Does this definition of community and local energy capture everything you feel we should focus on?**
2. **What else would you recommend we include within our community and local energy definition?**

2 ELECTRICITY NETWORKS' ROLE IN COMMUNITY AND LOCAL ENERGY

2.1 What is the role of the electricity networks operator?

As the electricity network or distribution network operator (DNO), we do not generate or supply electricity. We own and operate a regional network to transport electricity from generators to customers. In simple terms our network is made up of overhead lines, underground cables and items of plant, such as switchgear and transformers, which are used to distribute electricity to customers' premises. This network is paid for by customers through their electricity supply bills.

Through this network we deliver over 25 terawatt hours of electricity each year to around 2.4 million customer premises across an area of 12 500 square kilometres. We are responsible for the maintenance and upkeep of the network and ensuring it is able to accommodate future changes.

Electricity North West has a number of roles to play in the development of community and local energy projects including new connections, accommodating new generation and innovating for the changes that are taking place. To be able to ensure we are delivering the correct service to our customers our first task to understand their requirements.

2.2 Understanding customers' needs

Stakeholder engagement and understanding our customer's requirements is an important part of how we can deliver our aim of excellent customer service. We are developing this strategy in consultation with our stakeholders to ensure it addresses the issues they are facing and to make sure our response is the most appropriate. During the consultation process so far, we have gathered views through two independently facilitated engagement events and a number of one-to-one interviews. This document and the associated online survey is a continuation of this process to gather views. It is ongoing process that will continue beyond the production of the strategy to ensure we remain aware of the issues facing our customers.

Community and local energy groups are a small but growing customer group for Electricity North West and one where we recognise they potentially have different requirements to other customers. Community and local energy groups can vary widely in their structure and aims and objectives and it is therefore difficult to make generalisations as to their character however our impression is that they are a very well informed group albeit potentially without technical and / or electrical engineering expertise.

Community energy groups in particular are predominantly volunteer-led and that brings challenges in terms of the amount of time, expertise and resources they have available. Some groups are facing "volunteer-fatigue" due to the length of time some projects can take to develop and due to the challenges the sector has faced over the last few years with cuts to subsidies and tax-relief for investors. However the sector seems to be very adaptable to the challenges they are facing and are changing their business models to suit the new operating environment.

Community and local energy groups are operating at the forefront of new technology and business models development which requires us to develop new or enhanced services to accommodate their requirements. They also offer us the opportunity to develop partnerships and collaborative working arrangements to trial and test new technologies or new ways of working which will be required for the future of the network.

2.3 Main issues facing community and local energy groups

Our conversations so far lead us to believe that financial and political issues are the main challenges facing community and local energy groups. These issues are mainly due to the changing government policy in this area such as the Feed in Tariff and tax breaks for investors and its impact on the viability of individual schemes and community group's business models. However, it also includes the desire for community and local energy to develop sustainable business models to become self-supporting as well as enhancing their returns to their local communities.

Other issues that affect community energy groups are technical issues both those associated with the nature of the network in a particular areas or just simply understanding the issues and paperwork associated with applying for a grid connection. There are also issues associated with the nature of the sector, as outlined above it is largely volunteer led and there are a mixture of opinions as to whether this is a strength or a weakness.

As part of this process we have also identified issues some community and local energy groups have identified with access to Electricity North West services at the right time in their schemes' development.

Table 1: Summary of the main issues facing the community and local energy sector, in order of priority by number of responses received so far.

1	**Financial:**	For example the need to develop long term income and viable business models; the lack of seed, start up funding or development capital; macro-economic issues such as changes to FITs and connection charges.
2	**Political**:	Local planning regime; national policy changes
3	**Nature of the sector:**	Volunteer led; lack of time/expertise/resources
4	**Technical**:	Grid constraints; cost of reinforcement; lack of technical expertise and lots of technical issues.
5	**Regulatory**:	Current regime doesn't necessarily suit community energy model.
6	**Social:**	NIMBY attitude; lack of understanding / buy into, awareness of community and local energy / how the energy system will change
7	**Access to Electricity North West:**	Network constraint issues and access not easy to understand, early engagement would be useful

<u>Consultation questions</u>

3. **Have we understood the main challenges faced by community and local energy groups?**
4. **Are there any challenges we haven't understood or missed out?**

2.4 New connections

Our connections business – ***Energy Solutions*** – is responsible for connecting new customers to our network. As part of our regulated business they operate within rules which govern how they calculate connection charges, how connections applications are managed once accepted and standards of service.

Generally community and local energy schemes are large enough to be categorised as a 'business connection'. As the process varies slightly for domestic customers the information here about connections is therefore relevant to 'business' customers. This includes the majority of community and local energy schemes.

Under the Electricity Act 1989, DNOs are obliged to offer a connection to any customer that wants to connect to their network. A customer seeking a connection has to pay a proportion of the cost of the connection. Community and local energy groups will pay a connection fee, as do all distributed generation (DG) customers. The amount a customer has to pay is calculated using a standard methodology across all DNOs. The cost depends on various factors, mainly where the connection is located and the size of the connection requested. These factors can affect the scale of work required, the amount of equipment needed, and if any reinforcement works are needed 'upstream' at the higher voltage levels to facilitate the connection. It covers the cost of assets solely for the connectee's use, and a proportion of the cost of reinforcing the network, if needed.

2.4.1 Our service

We have a number of services to help our customers with new connections:

- We provide customers with a choice on how they would like to apply for a new connection. Customers can apply using our standard downloadable pdf forms or our new online application system for business connections.
- We also provide a choice in what type of quotation customers can choose. If customers are looking for a quick, high level indication we can provide a budget quote. For a better indication of the price to help with planning, we can provide a feasibility study. If, however, customers are looking for a more accurate quotation which they can accept and progress with, we also offer firm connection offers.
- We offer a number of distributed generation (DG) surgery sessions with customers looking to connect. These sessions are run throughout the year and are an opportunity for customers to meet one-to-one with a design engineer to discuss their specific query.
- In addition to the guidance on our website the Energy Network Association (ENA) has also published Community Energy: A Guide for Getting Connected.
- You can also keep up to date with the developments in our Connections business by registering for our Connections newsletter, which will keep you up to date on our latest news and updates from our Incentive on Connections Engagement (ICE) Work plan.
- Our website provides both fault level and thermal heat maps, geographically indicating areas where a connection may require reinforcement works.

Feedback we have received so far suggests not all of these services are being used by, or are not easily accessible to community and local energy groups. We understand that community and local energy projects are often complex and can be flexible in their design. Those that have attended surgery sessions have told us that early engagement and face to face contact is greatly appreciated but this service doesn't seem to be widely known about.

We appreciate that community and local energy groups are well informed and educated about the UK's energy system but don't always understand the jargon or technical language

of the electricity industry and therefore may need a bit more support than other business customers in accessing some of our services.

2.5 Capacity planning and innovation

Capacity planning refers to the work we undertake to predict future demand on our network to ensure we have forward plans to maintain reliability of supply to meet future requirements. As part of this we have also started to predict future generation capacity again with the aim of ensuring we have significant capacity to handle requirements. Alongside the capacity planning work are innovation projects which help us develop new ways of working to help manage the predicted increases in demand and generation.

Innovation projects can vary in size from large Network Innovation Competition (NIC) funded projects such as Capacity to Customers (C2C) and smaller Network Innovation Allowance (NIA) such as our Architecture of tools for load scenarios project (ATLAS) which enable us to develop new ways of working or new technologies before they are rolled out as business as usual.

We are also innovating throughout the business to adapt to changes that are already occurring due to new technologies or increased demand. For example we are investigating different methods for demand side response (DSR) such as C2C which will help us with local load balancing. We have recently trialled different types of connections contracts to investigate the viability of managed connections which can also help with DSR. We are now introducing managed connections as standard for new generation connections above 200kW. This will enable lower cost, swifter connections for customers and provide more flexibility on the network.

Electricity North West is always striving to improve the network through research and development and innovation projects. Innovation helps us to develop and test ideas and new technologies before they are rolled out on to the network and adopted as business as usual" (BAU). For more information you can download our innovation strategy from our website.

From our consultations we have heard that community and local energy groups are interested in the issues affecting the network and how their projects can support and help. They would like to get involved with innovation projects with DNOs and early dialogue about their projects so they can be shaped to help with network issues.

2.6 The changing role of the DNO to DSO

The change from a distribution network operator to a distribution systems operator (DNO to DSO) is happening, driven by changes to how the networks are used with corresponding European and national changes to policy reflecting the need for a new operating model for the future "smart grid".

All electricity network operators are currently in discussion with OFGEM (the regulator) and central government and are collaborating through the Energy Networks Association as part of the Open Networks project as to how they can adapt and develop to accommodate the technological challenges that are coming whilst at the same time protecting and benefiting customers.

One way to describe the change is that in the future there will be a lot more need for local services to help manage the demand and supply of electricity at a local level. The role of the DNO therefore needs to changes as this change will take place on its network. What is still to be decided is what role the DNO will play and how they will operate. As a regulated industry we have to operate for the benefit of all customers so our role is likely to be as a neutral market facilitator – making sure all the new services work for the effective operation of energy markets and deliver reliability of supply and affordability benefits for all customers.

This will involve a lot of internal changes to our systems and processes to give us the information and the flexibility we need to manage the network in this way. It will also mean developing new relationships and commercial agreements with customers; and community and local energy groups potentially have a role to play. Community and local energy groups could potentially be early adapters of new technologies or business models that will become part of the DSO world.

Community and local energy groups are well informed customers who understand the potential of how the grid could operate in the future. It could therefore be mutually beneficial to work together to develop how the distribution system of the future may operate.

3 OUR APPROACH

This section sets out how we want to approach our engagement with community and local energy groups:

Electricity North West wants to work closely with community and local energy groups, organisations and developers to support the development of their projects.

We understand that community and local energy projects can be volunteer led and complex and therefore need more time support to engage with Electricity North West services.

We would like to engage early with community and local energy groups to support them with the process of connecting to the network.

We would like to develop our relationships with the communities we support to explore other ways to work together such as on innovation projects and what role they may play in the future.

3.1 Delivering our approach

To deliver this approach we will need to develop a number of actions that address this issues that are raised through this consultation process. As part of the consultation process so far we have been gathering views on how Electricity North West can support the community and local energy sector in our region. In this section we have included a summary of the suggestions for support we have received so far. Our final proposals will be published in the final strategy but in the meantime we would like your opinions on these proposals and any other ideas you have.

Table 2: Actions suggested to address the issues raised, in order of priority based on stakeholder engagement so far

Main issues identified by stakeholder engagement	**Proposed actions to address the issue raised – based on stakeholder engagement so far (in order of priority, based on number of responses received)**
Nature of the sector eg largely volunteer led without required technical expertise	Requests for support include: Facilitate networking in the region to help groups learn from each other and / or find out about available support Provide support to understanding terminology and technical issues
Access to Electricity North West	Request for support include: Early engagement on projects; More face-to-face time or surgeries (or publicise existing service to community and local energy groups) Collaboration on innovation projects

	Dedicated point of contact Help with terminology More visible, more engagement
Financial	Requests for support have included access to financial support but also requests to work more collaboratively to develop business models that work for community and local energy. This includes request to collaborate on innovation.
Regulatory	Stakeholders recognise that the regulation of the distribution network business is complicated but they also appreciate that changes could benefit their plans. There is a desire to engage on this issue but more work is required to understand the issues in greater detail.
Social	Stakeholders feel that Electricity North West has a role to play in education, especially with school age children. We currently engage with primary schools through our popular Bright Sparks programme where we run sessions about electricity.
Political	While this is a big issue for community and local energy groups Stakeholders recognised that there is a limit to how Electricity North West can help in this area as the majority of the issues relate to local planning or national policy.

5. **Do you support our approach?**
6. **How could we improve it to better meet the needs of community and local energy groups?**
7. **Which areas do you think we should prioritise first?**
8. **How could you help us to support community and local energy?**

4 CONSULTATION PROCESS

Throughout this document there have been questions to prompt your thoughts and opinions. Here is a list of those questions and your response should be submitted via the online survey. **The deadline for responses is 23rd February 2018.**

4.1 Consultation Questions

1. Does this definition of community and local energy capture everything you feel we should focus on?
2. What else would you recommend we include within our community and local energy definition?
3. Have we understood the main challenges faced by community and local energy groups?
4. Are there any challenges we haven't understood or missed out?
5. Do you support our approach?
6. How could we improve it to better meet the needs of community and local energy groups?
7. Which areas do you think we should prioritise first?
8. How could you help us to support community and local energy?

We also welcome any comments related to this area and all responses can be returned to Helen.Seagrave@enwl.co.uk

End