

Workshop guide: renewable energy generation

Rather than being intended as blueprints for the delivery of the workshop, the resources found in this guide are provided as examples, based on learning from the workshops delivered as part of the Oldham Energy Futures project. Delivery teams should draw inspiration from the resources below and found in the [supplementary guide: workshop elements](#) in order to develop their own session plans and activities.



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Workshop guide: renewable energy generation

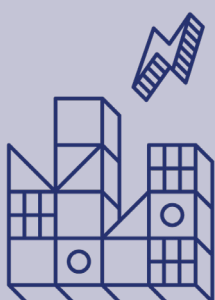
This workshop builds knowledge of the opportunities for energy generation through renewables in a neighbourhood. It can also build awareness of the potential for local ownership of renewables through community and municipal ownership, and the potential for technologies – such as solar – in both generating clean energy and delivering profits which can be driven back into the neighbourhood's economy.

In this guide

- [Workshop plan](#)
- [Session guides](#)
- [Optional resource](#)
- [Additional learning resources](#)
- [Good practice case studies](#)

Workshop plan

	9.45am	Registration
	10.05am	Opening • short welcome • housekeeping • check in with how people are feeling • reflection on the previous session • outline of today's workshop.
	10.20am	Session 1: solar energy calculator
	10.35am	Session 2: an introduction to local renewables
	11.20am	Break
	11.30am	Session 3: hearing from a relatable expert witness who has delivered community renewables
	12pm	Lunch
	12.45pm	Session 4: mapping local solar potential
	2.15pm	Session 5: mechanisms for change
	2.30pm	Session 6: reflection



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how this
impacts me
building
understanding



how this
impacts the
community
mechanisms
for change

Session 1: solar energy calculator

This is an interactive session that asks participants to explore solar potential for particular properties, estimating fuel bill savings and potential payments for selling energy to the grid. It's a hands-on way to introduce key concepts and terminologies around renewable energy and in particular rooftop solar production. It connects directly to the solar potential mapping exercise in the afternoon.



15 minutes



Interactive activity utilising a digital tool



This session can be delivered by a facilitator from within the core delivery team. Additional facilitators will be needed for group work.



Following this session, participants will:

- understand what renewable generation can mean for energy costs and savings across individual buildings
- understand some of the technicalities involved in installing rooftop solar and the calculations which need to be made to determine its suitability for a property.

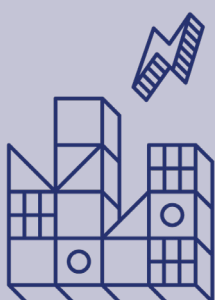


You will need:

- 3-4 computers and/or tablets
- Wi-Fi
- the [Energy Savings Trust Solar Energy Calculator](#)
- flipchart paper and pens.



Split into three groups with a facilitator allocated to each group. The computers/tablets and flipchart paper should be set up on three tables with chairs surrounding them.



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Session 1: solar energy calculator



Introduce the software and ask who in the group would like to try with their home as an example.

Try to find a couple of different types of users, so participants can see the difference between someone who is at home in the day time or out for most of the day. Facilitators can also demonstrate what would happen if the same person had a different pattern. It may also be useful to use the venue the group is meeting in as an example.

Key concepts participants can explore:

- roof conditions: size, angle, space, shading and their impact on potential energy generation
- the fact that it is necessary to use solar when it is produced otherwise it has to be stored
- the fact that if energy isn't used it is fed to the grid
- the differences in the financial benefit of direct usage vs selling to the grid
- the [Smart Export Guarantee](#).

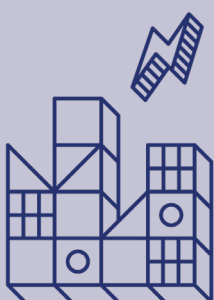


Record data on:

- information across the individual buildings, which may be useful (depending on the buildings) as a starting point from which to build ideas about community-owned renewables as one recommendation coming from the CLEP. This may also be helpful as a starting point for the solar mapping exercise if a [visualisation of solar data](#) is not available.



Ensure that the groups are doing most of the talking. This session should be discursive and enable connections across the group. If EPC personas were introduced in a previous workshop it may be useful to refer back to them to discuss how solar could help different households to reduce their energy costs/improve energy efficiency.



Session 2: an introduction to local renewables



45 minutes



Interactive presentation with conversations and short exercises



The facilitator for this session should have expertise in local renewable energy generation, energy systems, market development, ownership, governance and business models. Ideally, they should come from a community energy background.



Following this session, participants will:

- have a good understanding of the potential benefits arising for local people from a decentralised energy system and local renewable ownership
- form a basic understanding of the business model for non-domestic solar sites and be able to identify sites that have potential for onsite generation with a high return on investment
- form a basic understanding of the community energy model for renewables generation.



You will need:

- a projector/TV to connect to laptop
- sound if showing video or audio.



This session concentrates on local renewables, specifically non-domestic solar. It should offer an introduction into how the energy system is decentralising, the benefits arising for local people and an overview of potential local ownership models, with an emphasis on community energy.



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Session 2: an introduction to local renewables



Consider covering the following points:

- how is the energy system changing? Decarbonisation, decentralisation, the potential benefits in terms of democratisation and community wealth building and the potential risks in terms of reinforcing existing inequalities
- jargon buster: prosumer
- what is renewable energy generation? What types of sources are there? Why is solar most befitting for the urban context?
- non-domestic rooftop and ground mounted solar, covering key principles:
 - when does solar work best? Angle, direction, roof types, usage patterns
 - jargon busters: offtaker and behind the metre
 - touch briefly on storage, but solely as a concept and in regards to current and future viability
 - onsite usage versus selling to the grid (including Smart Export Guarantee)
 - installation costs, return on investment and carbon savings
 - basics of UK market regulation so people understand restrictions on the business model, i.e. it is not usually possible to sell energy generated directly to a neighbour
- business models: direct ownership versus power purchase agreement
- outline community ownership model, citizen investment and benefits
- outline municipal ownership in renewables and benefits and share examples.



Session 2: an introduction to local renewables



Record data on:

- areas of neighbourhood group interest, particularly any examples used or issues raised through discussion which could have potential as recommendations or community action projects (if relevant) at a later stage of the process.



It might be useful to pick up domestic solar from the last session as a demonstrator, as it helps to create an embodied understanding of key principles like onsite use, offtaker etc. Comparisons could then be made to a commercial site. The rest of the workshop should concentrate on commercial, public and community buildings and land.

Use hands-on examples and stories. Ask participants to give examples and share what they already know.



You can find example slides with images and diagrams to show how Oldham Energy Futures presented this session [here](#). Facilitators should create their own session content, drawing on these slides as a source of inspiration.



Session 3: hearing from a relatable expert witness who has delivered community renewables



30 minutes

Interactive presentation with the opportunity for questions and answers



The facilitator for this session should have first-hand experience of delivering a community renewables project. It may be beneficial for this to be a representative of a local/nearby community renewables organisation, which would also make them a decision-maker/influencer.



Following this session, participants will:

- understand how community groups can own renewable energy generation solutions
- understand what community ownership of renewables can mean for a neighbourhood
- be connected to an advanced community-owned renewables project which can provide them with insights as to how establishing a similar project might work.

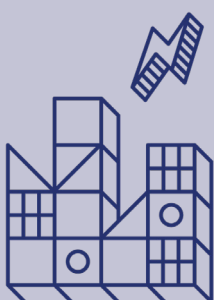


You will need:

- a projector/TV to connect to laptop
- sound if showing video or audio.



This should be a very solutions focussed session, enabling the group to dig into the nuts and bolts of how to deliver a community energy project. They should share some experience from the early stages of their work to give a sense of this being achievable.



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Session 3: hearing from a relatable expert witness who has delivered community renewables



Factor in time for discussion with the community so that they can ask further questions of the expert. Take note of any opportunities or potential solutions.



Record data on:

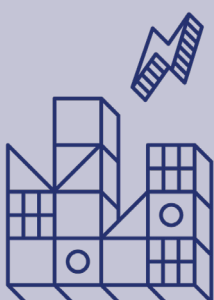
- ideas from the group about how they could establish something similar in their neighbourhood.



Try to get an expert witness who the group can “see themselves” in, someone from a similar background or community who the group can relate to. This will help them to recognise that it is possible for them to do something similar.



As part of Oldham Energy Futures the team recorded the session between the group members in Westwood and Afsheen Kabir Rasheed from Repowering London.



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Session 4: mapping solar potential

This session builds on pre-existing information about solar potential in a place, diving into what the community knows about local people and businesses who might be interested in renewables. This is a very useful exercise to check data against group knowledge and to identify the potential for a community-owned project.



90 minutes



Participatory mapping



This session can be delivered by two facilitators from within the core delivery team. Ideally one of the facilitators will have a working knowledge of community renewables and how renewables installation works.



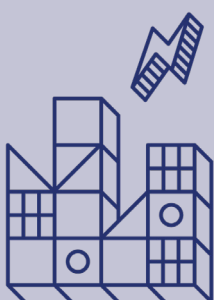
Following this session, participants will:

- have an understanding of the potential for solar, as a proxy for renewables, in their neighbourhood
- be aware of the potential for a financial return as a result of solar
- have identified several locations where solar would be suitable and the owners of properties that may be willing to install it
- be aware that their local knowledge is important in supporting the development of realistic ideas about how to introduce more renewable energy generation in their neighbourhood.



You will need:

- two large scale maps outlining the solar data (see [neighbourhood profile](#)). If resources are not available to produce these maps, it is still possible to look at the rooftops with the most potential for



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Session 4: mapping solar potential



solar using the [Google EIE tool](#), or a simple map with outlines of local buildings, presenting this information with a reference map to prompt discussion. The Google EIE tool provides a high level analysis and should not be used as the sole source of information for decision making. Ensure somebody knowledgeable in this area sense-checks this data before using it.



Split the group into two. Explain what the maps in front of them show. Use the maps to work with the group to identify commercial and community buildings with a good return on investment, and potential opportunities for collaboration. Key information to gather includes:

- commercial and community buildings with a good return on investment
- does the building already have solar?
- do you know who owns this building?
- streets of social housing that have good potential – who is the social housing provider?
- are there any landlords who own multiple properties in the area and is there already solar on any of them?
- what is it used for?
 - high energy users?
 - what time of the day is energy likely used?
- tenure – is the building used by the owners or by a tenant?
 - if a tenant, have they been there for a long time?
 - Is there lots of rental turnaround?
- potential for collaboration.

Map any contacts the group has to management, owners or staff – what or who might be a “way in”? What is the business or person’s track record with the local community? Any examples? Rank their approachability from 1 – 5. This part of the activity should take 45 minutes.



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Session 4: mapping solar potential



Bring the groups back together to feed back on their conversations, particularly focussing on the buildings they have identified. Facilitators should create a list of buildings from the discussion. To finish off the session, narrow down to ten buildings that the group would like to explore further. To do this use coloured sticky dots to rank each of the buildings in terms of rate of return, relationships to the building owner and perceptions around their willingness to install solar.

If the group is interested in progressing these ideas it would be useful to connect with the local distribution network operator to identify whether the buildings identified could be connected to the grid using solar.

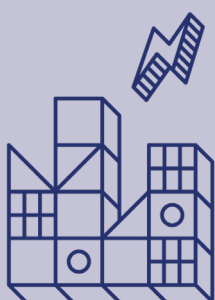


This activity produces very rich social data about where there is significant opportunity for the installation of rooftop solar in a place based on group insights as to who would be willing to install it. From a council perspective this activity can be used to identify community connections, how much energy is used in different buildings, and to build an understanding of the links to different land or asset owners in the community.



This is a long session so make sure there is time for a break, if needed.

The session will most likely need to be delivered with someone who has good knowledge of renewable energy generation and specifically solar. Make sure this expertise is available so that the group can ask questions and have sufficient responses to build their understanding of how they might deliver this type of initiative.



Optional resource: solar data visualisation

This visualisation can be used for mapping solar potential, and is very useful as a way of identifying buildings which would be suitable for solar in preparation for further discussion with the neighbourhood group.

 how it works

 tips

 examples of use



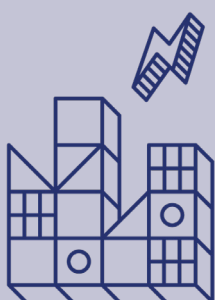
This is a very useful resource to open the conversation about what opportunities there are for solar installation in the neighbourhood. Starting with solar is beneficial as it is easy to map and understand the potential in the local area (using roof space from local organisations and businesses). Useful maps to include in this approach are a map showing potential yield (demonstrating how much solar power could be captured if solar panels were placed across all of the buildings), and internal rate of return (based on assumptions including address, postcode, PV cost, kWh, generation, size, area, IRR, Net Present Value and building classification).



Work with a specialist organisation which is familiar with mapping similar solar data, and which understands the type of information a community group would need to develop a business case for solar.



For Oldham Energy Futures the Centre for Sustainable Energy generated two maps outlining potential yield and internal rate of return for Westwood (Coldhurst Ward). [This is one of the maps produced.](#)



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Additional learning resources

- [where our energy comes from and how it gets to you](#)
- [how is the energy system changing?](#)
- [a short illustrated history of UK energy system.](#)

Good practice case studies

Explore local examples here:

- [Community Energy England](#)
- [Community Energy Wales](#)
- [Community Energy Scotland.](#)

Examples used during Oldham Energy Futures:

- [Egni Coop](#)
- [Bath & West Community Energy](#)
- [Repowering](#)
- [Oldham Community Power](#)
- [Plymouth Energy Community.](#)

