Westwood Community Led Energy Plan

July 2022

Oldham Energy Futures

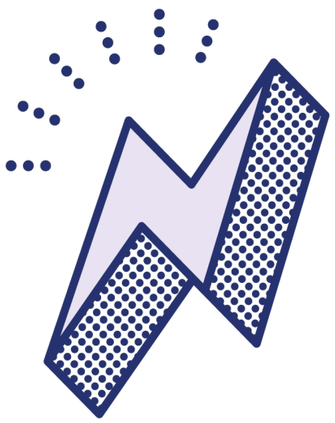
The Oldham Energy Futures programme ran from 2021- 2022 and was led by Carbon Coop and supported by its partners, URBED, CLES, UCL and Oldham Council.

Contents

Introduction

The UK is committed to reaching 'Net Zero' carbon emissions by 2050. To meet this target, it will require large-scale changes to heat, electricity and transportation systems.

We are the Westwood community, located on the western edge of Oldham town centre and we want to play a positive role in making the clean energy transition a success that brings benefit to our whole community.



The Challenge

Time is of the essence. As the first Green New Deal Council in the UK, Oldham has set two ambitious targets, for the Council itself to become carbon neutral by 2025, followed by the whole borough by 2030. Whilst there has been a general downwards trend in the borough's carbon emissions, from 1277kt (2005) to 773kt (2019), progress has fallen short of what is needed. If the 2030 target is to be met, significant reductions will need to be made each year.

The pie chart on the next page shows that 41% of our area's carbon emissions from electricity, heat and transport are consumed locally. Just under a quarter of our emissions are emitted from heat and electricity, whilst transport use is responsible for approximately 16% of local carbon emissions.

In our community, that means we need our homes to be upgraded to high energy efficiency standards and powered by renewable energy.

Meanwhile, transport systems operating within and beyond the neighbourhood need to run on clean and renewable energy, and active travel for shorter journeys within the neighbourhood needs to be encouraged.

These changes can not take root without local support and action.

- How can the local energy transition achieve legitimacy in the eyes of local residents?
- What benefits could a local energy transition secure for our neighbourhood, both economically and socially?
- How can those benefits be distributed in a fair and equitable manner?
- How can those with the power to influence borough-wide policy-making shape their work to serve the neighbourhood's needs?

In Oldham Energy Futures, we've worked through a community-led diagnosis process to set our priorities. Our lived experience of local issues gives us a unique viewpoint on how to blend energy transition needs with wider neighbourhood dynamics. This is a strong base upon which a locally popular transition can be built.

As a community, we can share knowledge and support people in taking action as individuals and collectively. Through this, we can become advocates for change at a wider borough scale to address issues and challenges that we experience within our neighbourhood.

Westwood Community Led Energy Plan

What is it?

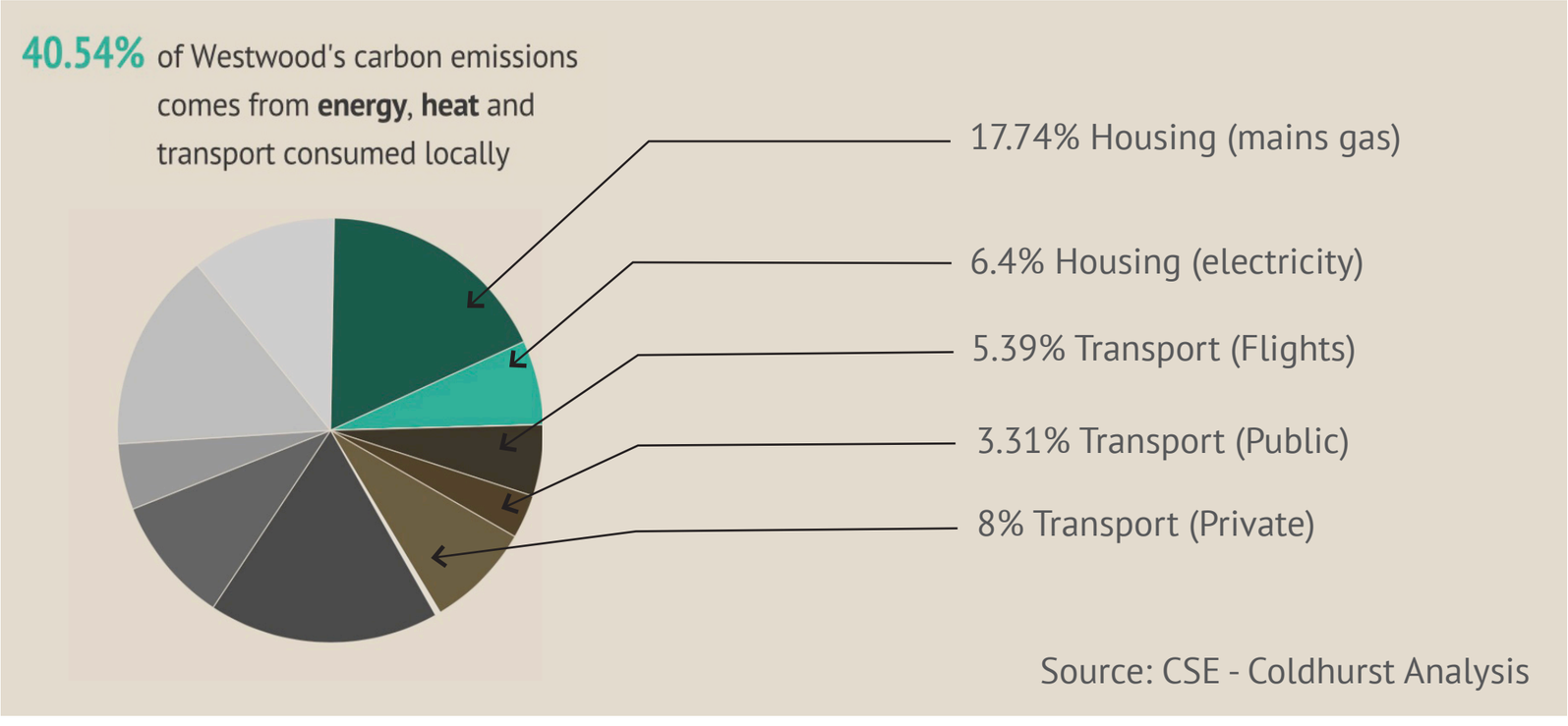
Community-led energy planning (CLEP) is our response to the questions outlined on the last page, with a vision of a future Westwood, that is warmer, healthier, happier and prosperous. The Community-led Energy Plan shows the key findings and actionable recommendations for different audiences that emerged from the Oldham Energy Futures workshop discussions across three energy themes:

- ***Energy Efficiency in the Home***
- ***Sustainable Travel***
- ***Local Renewables & Community Energy***

How to use our CLEP

The Westwood Community Led Energy Plan is structured in two sections. The first section provides an overview of what we did in the Oldham Energy Futures workshop programme. The second section sets out what we found out during the Oldham Energy Futures programme within each of the three themes, our diagnosis of issues and priority areas for action within our community and for our Council & other stakeholders.

We will use these initial findings to highlight some of the important issues and challenges we face in our neighbourhood and continue to speak to others about their experience, building up our collective knowledge.



About Westwood

The Neighbourhood

The neighbourhood of Westwood is located in an urban area on the western edge of Oldham town centre in the Coldhurst Ward.

The built environment of Westwood comprises of a mix of industrial and commercial factories and warehouses as well as a large stock of Victorian-era terraces, with some small pockets of housing association and council house properties.

Welcome to Westwood

Westwood is a community close to Oldham Town Centre. It is a close-knit community where people help each other out when needed. Westwood has everything one needs, as one of our community members noted:

'Westwood has lots of shops that cater to us. Halal stores, Asian shops, wedding halls, Mosques, and sweet shops'.

As representatives of Westwood, we comprise of residents who have a wide breadth of lived experience, from Councillors and solicitors through to students. Some members of our group have lived in Westwood all their lives, while others have chosen to move to the area to be closer to family and friends.

The groups' age ranges between 18 and 75 years old, giving a unique perspective of the challenges faced in the area from those of working age, with young families through to retired residents.

Many of our group are also actively involved in the community, volunteering or working out of the Millenium Centre and supporting the various activities there.

Some of the group is involved in the social enterprise food business, 'the Kitchen', based at the Millennium Centre. Being involved in the Kitchen has given some of us an understanding and experience of setting up a social enterprise.

One of the significant drivers for being involved in the Oldham Energy Futures project was the opportunity to share views and lived experiences of living and working in Westwood, which has informed this Community Led Energy Plan.

This is what we did

Workshop Summary

Our group engaged in the Oldham Energy Futures workshops between June 2021 to December 2021 at the Westwood Millennium Centre.

Through the workshop process, we explored three energy themes:

- ***Energy Efficiency in the Home***
- ***Sustainable Travel***
- ***Local Renewables & Community Energy***

In each theme we took time to think through how the changes needed could be done in such a way that benefit our whole community, creating a warmer, healthier, happier and prosperous neighbourhood.

Diagnosis workshops 1-4A:

In workshop 1, we were introduced to the Oldham Energy Futures programme. We traced the history of energy through an energy timeline and explored our aspirations for the programme.

In workshop 2, we explored how we can make our homes more energy efficient and warm and how that can improve health and save both on energy bills and on carbon emissions. We applied this new knowledge to our own homes and talked about the impacts on our communities in terms of fuel vulnerability. In workshop 3, we went on a neighbourhood walkabout in two groups and identified some of the barriers to sustainable transport and active travel within and beyond the neighbourhood.

For workshop 4, we went on a trip to Liverpool to visit Squash Nutrition, a community social enterprise cafe and small groceries shop where we learnt about community ownership, particularly in relation to renewable energy. For workshop 4A we heard from Repowering London about how they developed as an organisation supporting communities to co-own renewable installations and deliver education and training around energy issues. We started to look at the opportunities for solar in our neighbourhood and identified the buildings and owners we felt would be easiest to work with on developing a community solar project.

Imagining workshops 5 to 6

In workshops 5 & 6, we looked at example projects from other communities such as Plymouth Community Energy and engaged with external stakeholders such as Transport for Greater Manchester to learn about and discuss ideas to tackle the issues and challenges identified in prior workshops. In three groups we started to refine the ideas within each theme.

Defining workshops 7 to 8

In these final workshops we started to solidify the ideas to bring them into a set of community actions as well as recommendations to stakeholders. We discussed which kind of community action we would like to try out immediately as a pilot, who the partners could be and where we could get additional resources and funding.

To find out more about what we did in the workshops, please see the Westwood Community Workshop Summary or check out the Oldham Energy Futures website blog.

Workshop Timeline

01 Energy Efficiency in the Home

What we found out

What's the problem?

UK Context

The current climate change targets of reaching net-zero by 2050, means that by 2050 energy use in our homes will need to be responsible for zero carbon emissions.

In the UK, many of our homes are draughty, energy inefficient and cold. Much of the housing stock is old and inefficient - even housing built more recently is likely to need substantial upgrades if we are to meet net zero targets and reduce other inequalities.

The energy needed to power and heat homes in the UK is responsible for about 22% of the UK's carbon emissions and most of these emissions are caused by gas central heating. Reducing energy demand is key, as is providing heating and power through non-fossil-based means.

Our homes also have a role in reducing the risk of overheating caused by more frequent spells of extreme summer temperatures as the climate warms and changes. Whilst older homes (such as with thick stone walls) can be better at regulating these temperatures, nearly all of our homes are vulnerable in their current state.

In the UK, most households spend around 90% of their time inside the home (Klepeis et al., 2001); therefore, the design and construction of our indoor environments have a significant impact on our lives. The quality of our indoor environments can affect our physical health (such as cardiovascular and respiratory systems), and our mental health.

The UK has a high rate of excess winter deaths, with fuel affordability and difficulty keeping homes warm being one of the prominent factors contributing to this. With draughty/leaky and energy inefficient homes, households may need to spend more money heating their homes and with high fuel costs, this puts pressure on household budgets.

Turning off heating, or substantially under-heating, affects well-being, comfort and happiness, and has links to educational attainment for children.

Greater Manchester Context

Greater Manchester has a target to reach net zero by 2038, this includes the decarbonisation of all of the housing stock in the region to net zero.

In Greater Manchester there are around 1.2 million homes and around 54% of these properties across the region fall within the EPC D band with an average rating of 63 and average CO2 emissions from heating and lighting at 3.6 tonnes per home.

There are also around 22,000 homes that fall within EPC bands F and G.

Between 2017-2018, there were 2,220 excess winter deaths in Greater Manchester, with a quarter of these potentially linked to cold homes.

Energy efficiency and EPC data

Climate Guide, together with the Centre for Sustainable Energy (CSE), undertook an analysis of the Energy Performance Certificates (EPCs) for all domestic properties in Westwood.

The EPC rating data provides a high-level indication of the type of housing in the area and the general energy efficiency across the neighbourhood.

We were introduced to the EPC data within the community workshops as it acted as a learning tool to explore the energy efficiency of properties across the neighbourhood. The data has its limitations (see the box on the right), and should not be seen as an accurate take on the energy efficiency or building condition.

Whilst there are these limitations, EPC data at an individual and aggregate level is a useful starting point for exploring energy use in housing, using a simple A to G rating and traffic light colour system across the neighbourhood.

We can use the EPC data as a starting point to identify areas to undertake more detailed energy efficiency surveys and modelling of properties in Westwood.

Limitations of EPC Ratings

- The EPC band/SAP rating includes fuel costs (so it is not a pure 'energy use' indicator as often assumed).
- The carbon intensity measure (how much CO2 is produced per kWh of fuel consumed) in the EPCs will reduce as more electricity is generated from renewables and less from gas and coal; therefore, older EPCs are likely to be significantly outdated in terms of CO2. The environmental impact ratings are also likely to be outdated for similar reasons.
- The EPC presents a snapshot in time and has an expiry date of 10 years from the date of the assessment. In that ten-year window, upgrades may take place, such as loft insulation topped up; that won't be accounted for in the EPC rating of the property. Likewise, a property may have been extended which all has a bearing on energy use and performance.
- The only triggers for an EPC assessment are when a home is built, sold or rented (or if as a requirement for a Renewable Heat Incentive application), so unless there is a trigger, there is little incentive to update them.
- The data uses Reduced data Standard Assessment Procedure (RdSAP), a reduced version of a full SAP assessment that uses certain conventions and assumptions. This means assumptions may be made about the property age, wall types, and insulation levels and if assessors cannot physically access spaces in the home, they will fall back on allowable conventions.
- The EPCs are based on 'standard occupancy.' Whilst this allows you to make high-level comparisons between properties, it neglects the way people actually use their homes, so they do not account for factors such as underheating, which is very common, nor households that are very high consumers of energy.
- They cover regulated energy only, not additional lighting and appliances (i.e. plug loads).
- There are other elements important for developing retrofit strategies that are not factored into EPC ratings such as building condition, repairs, ventilation, etc.

What we found out

In Westwood...

There are high levels of fuel poverty in Westwood and many homes are old and not very energy efficient.

In Westwood, 65% of homes have an EPC rating and those ratings show that Westwood has a lower average EPC rating than in other areas of Oldham.

In Westwood the homes are not very energy efficient, where 46.7% of homes in Westwood have an EPC rating of D and where 5.7% of homes are rated E to G. In our community, many of the homes are old Victorian terraces that lose heat easily.

"I live in an old terrace house, it requires lots of work and is very draughty..I spend between 60 to 90 pounds in winter per month on gas.'"

(Resident , Westwood Community Survey 2021).

"The EPC rating of my home is an F, it literally couldn't be any worse."

(Resident, Westwood resident, 2021)

There are also many people in Westwood privately renting their homes who lack agency to improve the energy efficiency.

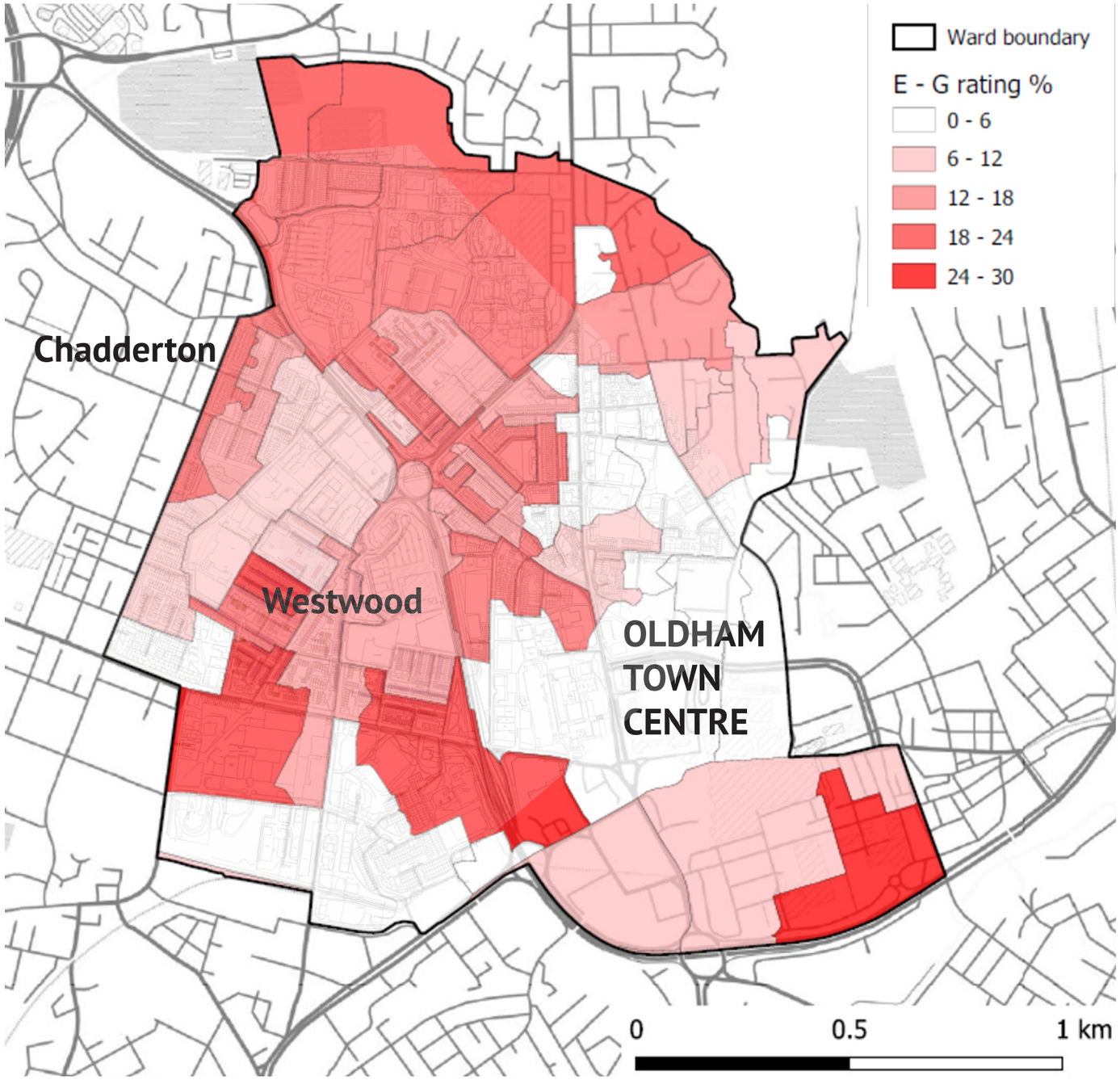
Many of the homes in Westwood are privately rented, and it is harder to make improvements as a tenant as issues need to be raised with the landlord and can only be fully resolved if the landlord is 'on board.'

We also found that some private landlords in Westwood avoid making improvements to their homes if they don't have to.

Spatial data: percentage of E to G EPC ratings in Coldhurst ward

CSE undertook an analysis of EPC certificates for all address points in Oldham Borough, both domestic and non-domestic. This was used to create a dataset that showed recommended energy efficiency measures by Census Output Area for every part of the borough. The adjacent plan shows the percentage of properties with EPC ratings between E to G in each ward across the Coldhurst Ward and the neighbourhood of Westwood.

Looking in more detail, the plan shows there are clusters of EPC rated E to G homes located within the western areas of the Ward in Westwood and areas to the south east corner around Union Street and Roscoe Street. There is a lot that could be done to improve energy efficiency of homes across this area.



Spatial Data: EPC Ratings E to G, Climate Guide, CSE, 2021

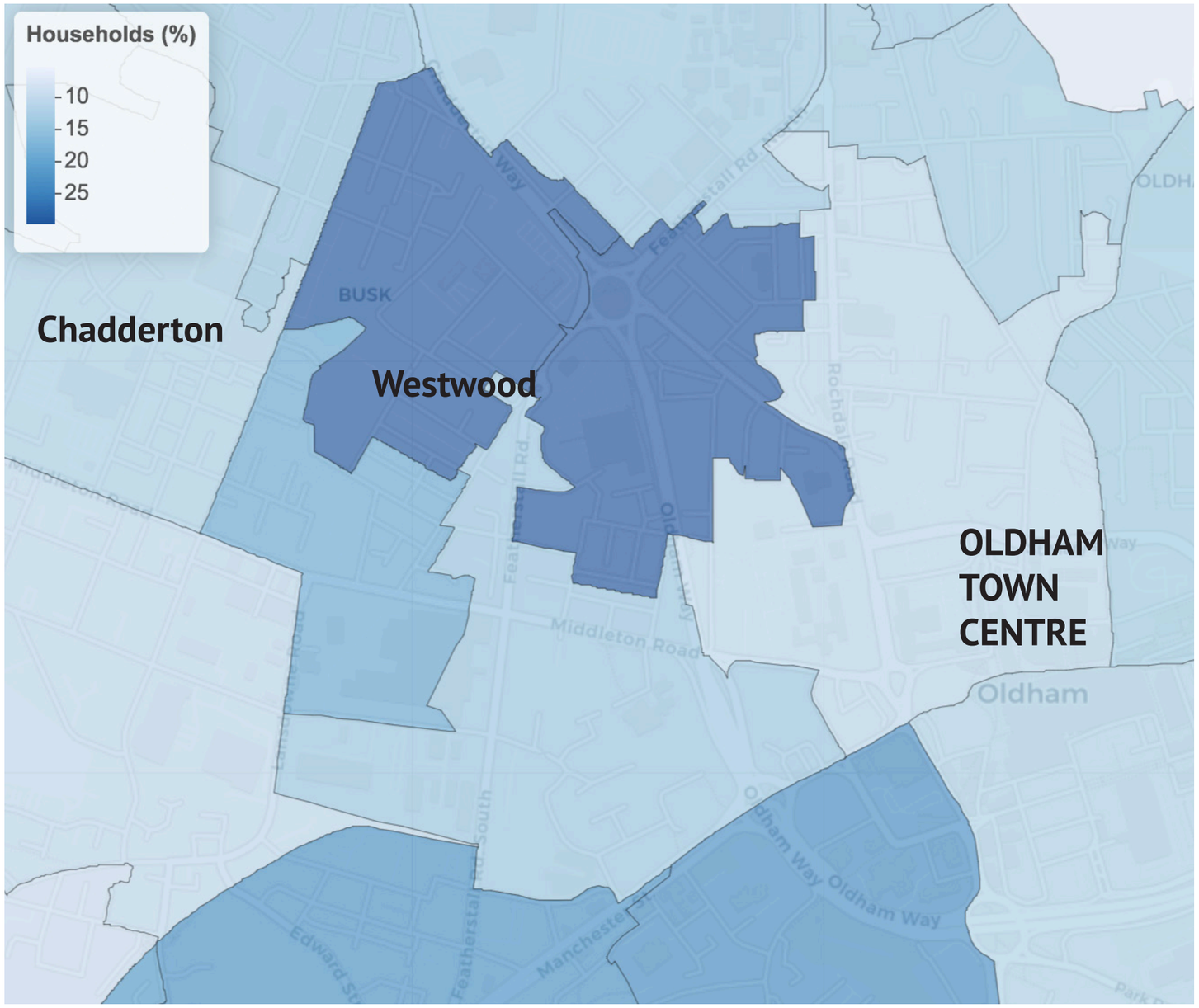
What we found out

Spatial data: fuel poverty

The adjacent Fuel Poverty plan shows that the Coldhurst Ward, and particularly Westwood, has one of the highest percentage concentrations of households experiencing fuel poverty in Oldham. Statistics* show an average of 19.4% of homes in fuel poverty, but in some areas this is as high as 25%. We know that recent and future energy price rises will push these rates higher.

As a result, many people in Westwood need to spend a large proportion of their household income to keep their homes warm during winter. The reality is that despite spending what they can, under-heating or 'self-disconnection' is common.

* BEIS sub-regional fuel poverty England 2022 (2020 data) and English Housing Survey Data 2020.



Spatial Data: Fuel Poverty - English Housing Survey (EHS) Data, 2020

There is a lack of access to retrofit support services and finance options in Westwood.

Many households in Westwood find it challenging to access support and finance options to help with paying energy bills. It is also difficult to access finance for making energy efficiency improvements.

There is a lack of time in busy working households to consider the complex web of issues, especially for lower-income families where day to day stresses of life can leave little head-space to consider other things.

There is also a lack of adequately skilled tradespeople in Oldham and across the country, creating a challenge in finding good quality installers.

"A lot of homes are old terraced locally - in need of support. We need to make Green Grants for local disadvantaged families."
(Westwood resident, 2021)

"We need help with bills and options for payment."
(Westwood resident, 2021)

There is also a lack of knowledge around domestic energy efficiency measures and their benefits in the community.

Many people in our community are not aware of the types of DIY improvements they can make to their homes to make them more energy efficient and the benefits of improving comfort and reducing energy bills.

There is a real need to share the knowledge and resources to support local people in understanding the measures they can take to improve the energy efficiency of their homes and the benefits this can bring.

There is also a lack of access to trustworthy and independent information on measures that would be suitable for their home.

What we found out

Old Victorian housing stock

The adjacent typologies plan shows that much of Westwood's housing stock comprises old Victorian terrace housing. The Victorian terrace houses in Westwood have solid double brick external walls and were not originally built with insulation within the wall, floor or roof structure. These houses, despite the efficient form and typology, are hard to keep warm on colder days.

The spatial data of higher percentages of EPC ratings between E to G is overlaid on the plan and the numbered areas correlate with much of the identified terraced housing stock.

The images show some of the housing within the numbered clusters and it appears that the majority do not have any external wall insulation installed (though potentially some may have internal wall insulation). There is an opportunity to retrofit these properties to improve their energy efficiency.

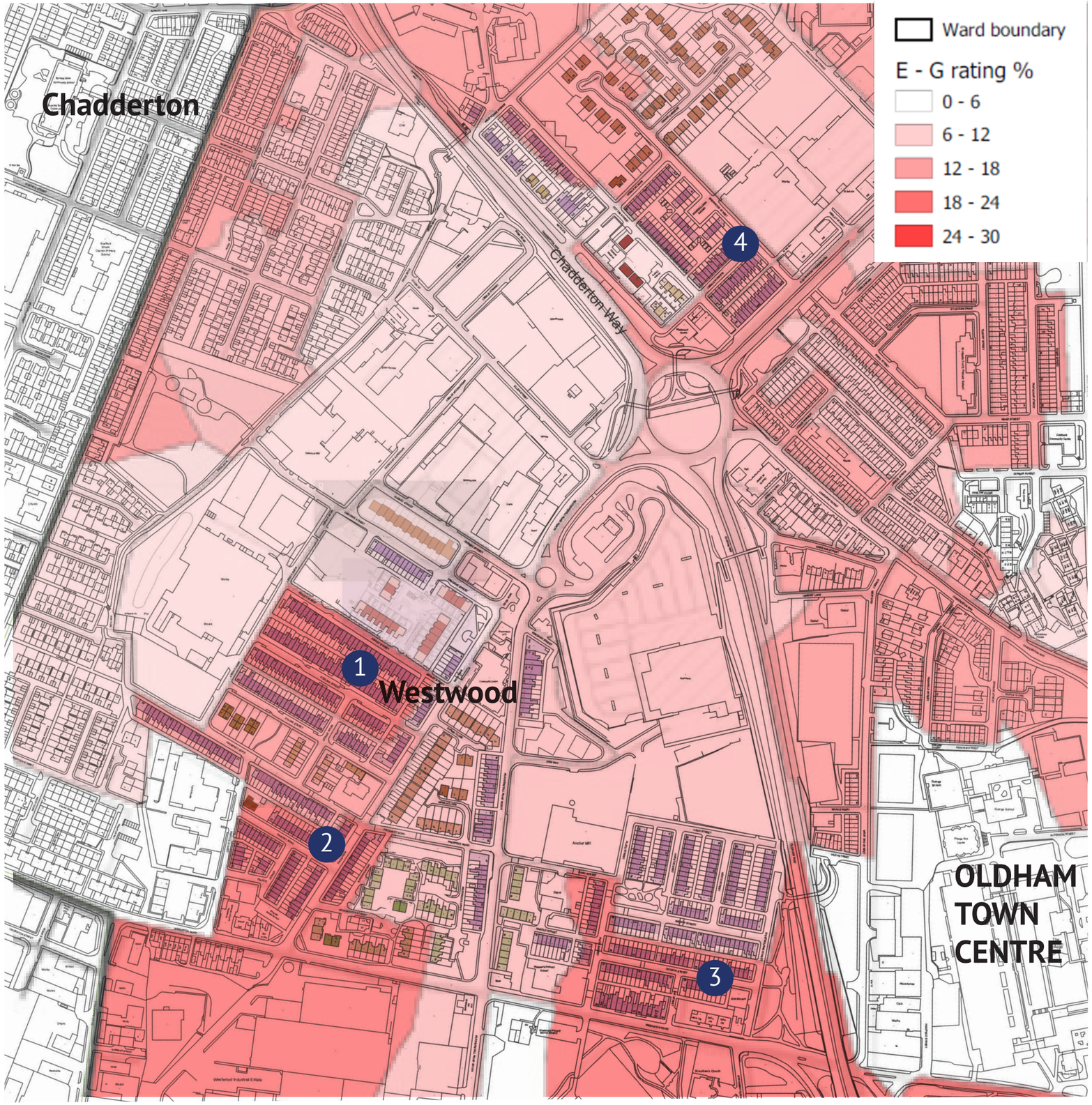
1. Ashley Street, Sterling Street, Sylvan Street & Moon Street

2. Prospect Road, Daintry Road, Palace Street & Neville Street

3. Plato Street, Colwyn Street & Middleton Road

3. Cottam Street, Eleanor Street and Sherwood Street

Contemporary Housing	Detached
	Semi Detached
	Mid Terrace
	End Terrace
1990s	Detached
	Semi Detached
	Mid Terrace
	End Terrace
1980s	Detached
	Semi Detached
	Semi Detached (bungalow)
	Terrace
1960s / 70s	Detached
	Semi Detached
	Semi Detached (bungalow)
	Mid Terrace
	End Terrace
	Flat Block
1950s	Detached
	Semi Detached
	Semi Detached (bungalow)
	Mid Terrace
	End Terrace
1900-20s	Detached
	Semi Detached
Mid - late 1800s	Semi Detached
	Mid Terrace
	End Terrace



EPC ratings of properties E-G overlaid on the typologies baseline mapping, highlighting potential focus areas for retrofit in Westwood.

What can we do?

"They [the landlords] won't insulate those homes, there is not a lot that we can do about it, we have no agency over them."
(Westwood resident, 2021)

"To deal with the low energy inefficiency we only tend to heat certain rooms in our home and gather there."

(Westwood Resident, 2021)

Why is this important to us?

- Fuel poverty puts pressure on families and vulnerable people in our community to turn off heating to save money, but this affects their wellbeing, comfort, and happiness.
- We think it should be a local priority to tackle fuel poverty as part of the local energy transition so that no one is left behind and everybody benefits.
- Those privately renting in Westwood are especially vulnerable as they cannot easily make changes to their own home, and it would be up to the landlord to make more substantial home improvements to the building fabric, heating and ventilation systems.
- The UK has a high rate of excess winter deaths and fuel poverty. People finding it difficult to keep their homes warm is one of the largest contributing factors, and it is an urgent health and social issue in our community.
- With very few grants or support (such as reductions in the ECO scheme delivered via energy suppliers), there are gaps in funding to support the delivery of energy efficiency measures locally. This is especially the case for privately owned homes.
- If we are to address the large numbers of energy inefficient homes in Westwood, we need more financial support and human resources in the community to help make improvements.
- There are immediate DIY energy efficiency improvements that can be made to the housing stock in Westwood; but the knowledge on how to do this well (and without creating unintended consequences) needs to be shared.

To address the lack of knowledge around domestic energy efficiency measures and their benefits in the community and...

To address the high levels of fuel poverty in Westwood and the many homes that are old and not very energy efficient:

What we've done so far

A) We have already started developing the foundations for a Local Energy Efficiency Hub for Westwood.

Over the past four months, we have been working with Carbon Coop to set up a weekly one-to-one energy advice drop-in based at the Millennium Centre. As a community, we understand the limits to our own expertise in energy efficiency measures so at these sessions, trained energy advisors will share the advice gathered during the Oldham Energy Futures programme with local people over a cup of tea.

With an understanding of the issues in mind, the advisors will make recommendations for immediate action and signpost people in the community towards services that can provide further support. Residents will also be able to book a follow up home visit.

There, the advisor will support the resident to act upon the advice given in the one-to-one sessions, identify which measures are most important to act upon and take a lead on installing basic DIY measures. We have already made contact with some useful partners. Oldham Council's energy advice service Warm Homes Oldham can provide additional home energy assessment support; trusted handyperson services can provide a range of basic improvements such as draught proofing and insulation, and Carbon Coop can run a series of DIY training sessions designed to equip residents with the practical knowledge and confidence to undertake basic home improvements.

To make sure that the energy advice service reaches the people that need it most, we are running a door-knocking promotion in areas of the neighbourhood with the lowest EPC ratings and higher levels of fuel poverty. This intervention will act as a complimentary service to what already exists in Oldham.

Learning from the experience of South East London Community Energy, we know how important the role of community organisations can be in building trust, sharing knowledge and overcoming language barriers with the local community, particularly when fuel poverty is a common issue. The Millennium Centre's energy drop-in session will be our first step in bringing a similar support service to Westwood.

What can we do?

1 What we can do as a community

To address the lack of knowledge around domestic energy efficiency measures and their benefits in the community and...

To address the high levels of fuel poverty and the lack of access to retrofit support services and finance options in Westwood we could:

1A) Engage in local data mapping in the neighbourhood

We could continue the diagnosis and data mapping which we started during the Oldham Energy Futures programme and engage more local people to understand their experiences of their homes and their energy use.

We can use the Oldham Energy Futures maps as a starting point to target specific streets with a higher percentage of EPC ratings below E and continue to identify and speak to households that are experiencing fuel vulnerability.

This can all help to build a more holistic picture of what is happening now, and what needs to happen, from the bottom-up. Instead of assumed energy use, we can start recording actual energy use and fuel costs. And we can add to the narrative around energy by observing building condition and what repairs might be needed before retrofit can take place.

1B) Signpost community members to existing, trusted energy advice resources

To support our community in building knowledge around energy efficiency, we could signpost to useful energy advice resources developed by trusted organisations and charities such as The Centre for Sustainable Energy (CSE), Changeworks and Cumbria Action for Sustainability (CAfS). CSE provide a lot of useful publicly available resources and factsheets on their website, including in other languages: www.cse.org.uk/resources

These provide information, practical guides and videos, such as simple DIY draught-proofing and using central heating controls. We could also get in touch with CSE to see how these might be tailored to Oldham and our projects (for example, including contact details of our hub and Warm Homes Oldham), or commission a similar organisation to develop a resource specifically for the energy efficiency challenges within our neighbourhood.

1C) Offer in-depth home energy assessments

The community could go one step further and offer a more in-depth home assessment service, where trained retrofit assessors can conduct whole-house reviews of properties.

These assessments provide a more accurate reflection of a property's full energy use, giving residents a comprehensive view of the issues and a better basis for making decisions about home renovation.

Some measures can be more extensive, disruptive and costly to install. Insulation and draught-proofing work in particular needs to be carefully considered alongside ventilation. The community would need to consider supporting individuals with accessing appropriate trade expertise and finance alongside this new service.

1D) Set up a tool library

We could set up a tool library located at the Millennium Centre, which could be a useful resource for both residents and advisors, where tools could be rented out for free or at a discounted cost.

1E) Develop bulk purchasing of low-cost energy efficiency products

As a community, we could look into setting up a local bulk buy scheme. The scheme could work to raise and create interest and awareness of energy efficiency measures. Also, we could offer reduced-cost prices to residents by purchasing items such as low-energy light bulbs or draught-proofing materials in larger quantities.

If there is local interest, we could look at more ambitious bulk buy items as part of more significant community retrofit initiatives for whole street retrofits.

Clustering installations in this way can also help to make work more attractive to installers. Retrofit installers often prioritise larger installation projects over smaller ones, so clustering could help get the ball rolling on home energy efficiency in Westwood quicker. There are also logistical efficiencies to clustering projects, so that site facilities and materials storage can be located nearby.

1F) Lobby Westminster to secure a better settlement for energy efficiency retrofit for people living in low-income and energy performing homes

Jim McMahon, the Parliamentarian representing Oldham West & Royton, should use the data collected in Oldham Energy Futures to highlight the clear opportunity for retrofit in Westwood and focus their messaging in Westminster on this issue.

While the financial and health benefits of whole-house retrofit for the community's priority group are substantial, the current support is inadequate.

Efforts to develop a retrofit market will only partly respond to the issue. Those on lower incomes will not be able to afford retrofits without additional support (and therefore miss out on the benefits). Recent government funding has focused on upgrading EPC E to G rated properties, but we think this should be expanded to EPC D rated homes.

What can we do?

2 What you can do as Oldham Council

To address the lack of knowledge around domestic energy efficiency measures and their benefits in the community, you could:

2A) Explore borough level options for funding whole house retrofit for vulnerable residents

In support of the actions proposed for Members of Parliament, Oldham Council should investigate how to improve the whole house retrofit support for lower-income people living in lowenergy performing homes. Some options to consider to channel funding towards this group:

- Community Infrastructure Levy.
- A local energy efficiency fund which recirculates profits from new Council and community renewable energy infrastructure developments and other profitable green initiatives. See "local renewables" recommendations for more information.

2B) Develop the supply chain

Creating the conditions for a new domestic retrofit market requires targeted, strategic support for contractors and supply chain companies combined with broader infrastructural development and local economic planning. Oldham Council could support this work by:

- Building a network of contractors interested in retrofit, especially those already operating in the Repair, Maintenance and Improvement (RMI) sector and who have experience of working at the household scale
- Offering local training opportunities
- Supporting contractors to grow. Develop a borough-wide jobs fair to promote and share information about new low-carbon jobs and the green economy.

For more information on a possible model for development, please see the People Powered Retrofit paper from Carbon Coop here: **cc-site-media.s3.amazonaws.com/uploads/2019/01/PPR-Report-June-2019.pdf**

2C) Refresh "Warm Homes Oldham"

The success of the Millennium Centre's energy advice drop-in project relies on having an effective sign-posting service in place. The Council could partner with the Millennium Centre to build an effective end-to-end energy advice service, where different organisations in Oldham provide part of an overarching service.

The role of neighbourhood-based community actors, who act as trust builders with the local community, should play a pivotal role in the full-service provision. This could work by:

- Organising a workshop to map out the essential elements of an energy advice service with potential stakeholders. The community has already undergone a mapping activity which we can contribute towards this.
- Agreeing to make the Council's energy advice service, Warm Homes Oldham, the key signpost for residents that would benefit from an in-home energy advice visit. Whilst Covid-19 affected the Council's ability to run in-home support, the cost of living crisis makes it more pressing to reboot in-home visits and increase the Council's capacity to respond to increased local needs.
- Working with the Millennium Centre to align the recommendations made through the Warm Homes Oldham with the in-community energy advice service. For example, our programme encourages a full review of heating systems and home temperature before recommending reducing room temperatures.
- Many people living in fuel poverty will already be underheating their homes, leading to health problems. Any recommendation around a change in room temperature should only be made if a resident's health is protected.
- Build an alert system for home energy efficiency funding options. The Council could play an important role in vetting the credibility of the funding. For Westwood, a WhatsApp alert list is likely to be most effective.
- Work with other community hubs to act as the first point of contact on energy advice in Oldham. Once this point of trust has been established, Warm Homes Oldham can be the key signpost for in-home energy support, using a similar model to the Millennium Centre's work. The Council should consider paying a 'finders fee' to these community hubs to help support the financial viability of community-based energy advice support.

2D) Increase energy efficiency targets for new development

Whilst the Future Homes Standards are set to come into force for new development by 2025, the Council should raise the bar within development control and bring in higher energy efficiency standards earlier than this. The Council could look at setting Energy Use Intensity (EUI) and space heating demand targets.

What can we do?

3 What you can do as a Housing Association

To address the high levels of fuel poverty in Westwood and the many homes in Westwood that are old and not very energy efficient and...

To address the lack of access to support services and finance in Westwood, you could:

3A) Access local data to inform strategic thinking

As owners of housing stock, social housing providers can play a significant role in addressing low energy performing homes and fuel poverty in Westwood and the rest of the Coldhurst ward. During our workshops, one tenant from First Choice Homes shared that:

"It would be great to know more about any schemes to help people with low EPC ratings. Is this something that could be made available?"

Tackling this problem could help to improve the warmth, health and comfort of social housing residents. Social housing providers can contact the Westwood Community Energy group to access our full data set. We could work together to enhance your asset data, collecting and adding in actual energy use and fuel costs (not just modelled, as the EPCs use).

This data provides a property level summary of domestic EPCs across Westwood. Our visual highlighting of areas in the neighbourhood with higher concentrations of low EPCs buildings may also be useful.

3B) Coordinate Social Housing Decarbonisation Fund applications

To put plans for home energy efficiency improvements into action, you could consider applying for future rounds of the Social Housing Decarbonisation Fund. There are others in Greater Manchester and beyond that have experience in this and are often willing to share learning.

Through this government fund, £800million has been committed to improving energy efficiency over the next three years. Whilst Wave 1 has already closed, we expect that Wave 2 will open for applications in late 2022.

Coordinating your efforts with other local social providers could help avoid competition between colleagues and helps to ensure that finance is channelled towards places most in need.

3C) Pool social housing assets for local good

As owners of property, capital and expertise, social housing providers like yourselves could consider how best to make their resources serve the benefit of the whole community. On property, you could turn one of your voids into a retrofit show home, demonstrating what a less carbon intensive home may look like. This would help bring to life conversations about what the work involves, and the benefits.

We have already identified a First Choice Homes-owned community centre within walking distance of the Millennium Centre as a potential space. The space would help engage residents and be valuable for engaging the wider local community with energy issues. We can imagine the Local Energy Efficiency Hub hosting drop-in sessions at the show flat!

You could offer to fund neighbourhood-based energy advice services for all residents on finances. First Choice Homes have already committed some funding to support our effort to set up the Local Energy Efficiency Hub.

With your expertise, if you are already overseeing home retrofit upgrades across the area, you could create a cost offer for other households living within the local vicinity, enabling them to upgrade their home simultaneously.

3D) Develop an Area Based Energy Efficiency programme in Westwood

You could develop an area-based energy efficiency project in the neighbourhood, supporting residents with training on using their heating systems. This could be a great opportunity to understand the level of readiness for the switch to heat pumps, or other non-fossil based heating - feeding into the planning work of asset management teams.

You could identify and retrofit properties which still require additional energy efficiency measures within Westwood and coordinate with the wider community to offer resources and support to homeowners and landlords in the area who may want to retrofit their homes at the same time.

OEF Workshop 2 Energy Efficiency in the Home: The Energy House

What can we do?

To address the lack of access to retrofit support services and finance options in Westwood and...

To address the many people in Westwood privately renting their homes who lack agency to improve the energy efficiency of their homes, you could:

4 As the Chamber of Commerce

4A) Advocate on behalf of the Westwood business community for more local retrofit support

Oldham is covered by a local branch of the Greater Manchester Chamber of Commerce. This organisation advocates on behalf of local businesses to extend their interests.

By sharing the data with the Chamber of Commerce and documenting the need for home energy efficiency improvement in Westwood, the local community could show how much latent demand there is for retrofit in the area to help stimulate discussion on skills and training.

The Chamber of Commerce can use this evidence to advocate for the Westwood business community to bring more retrofit support services and skills training to the community.

5 As Oldham College

5A) Advocate on behalf of the Westwood business community for more local retrofit support

Oldham College, the local provider of further education courses, has a department devoted to construction, but there's no apparent focus in any of their current offer on retrofit.

The college could provide courses specifically around developing retrofit skills, to build the local retrofit workforce of the future and address the skills gap.

The evidence base developed in Oldham Energy Futures could help to make the case for increasing their educational offer and equipping their students with the right skills to take advantage of this huge potential across the council area.

Links could be made between the training and supply chain work being done by organisations like People Powered Retrofit: retrofit.coop/training

6 As a local private landlord

6A) Upgrade the energy efficiency of your rental properties

Now is the time to upgrade the energy efficiency of your rental properties. Since the 1st April 2020, all rental properties being let or sold in England and Wales must have an EPC E rating or above.

This year the government has proposed all properties will need to have an EPC rating of C or above by 2025. The penalty for not having a valid EPC will raise to £30,000.

You could listen to our experiences and work with our community to plan investments that will deliver positive impact for you and your tenants. For example, reducing energy demand through quality insulation works has multiple benefits - not only helping your tenants with comfort, health and affordability, but also improving the condition of your assets.

OEF Workshop 7: Developing Energy Efficiency Actions

02 Sustainable Travel

What we found out

What's the problem?

UK Context

According to the 2021 Department of Transport Environmental Statistics report, domestic transport in 2018 was the largest emitter of Green House Gases in the UK, producing 27% of the UK's total emissions.

The number of car trips in the UK under a mile has doubled since the 1970s to around 30%. This rise in short car journeys contributes to noise, congestion and pollution in neighbourhoods, often creating an unpleasant environment for pedestrians and cyclists and residents in their communities.

The UK government published its Transport Decarbonise Plan in 2021, setting out the Government's approach to decarbonising the UK's transport system.

The Government plans to move 25% of its car fleet to ultra-low emissions by December 2022 as an interim step. It plans to ban the sale of new petrol and diesel cars and vans by 2030.

Focusing on efforts to reduce carbon emissions from road transport only through the uptake of EVs comes with caution though as this could increase car ownership by 28%, which will impact the resources required to accommodate the increase and an 11% increase in car traffic by 2050.

It is therefore important to also look at a modal shift away from cars in general to other more sustainable travel options for long journeys such as trains, buses and trams. These transport options reduce the overall reliance and number of car journeys and help alleviate congestion in neighbourhoods, towns and cities.

We also need to encourage a UK-wide culture of walking and cycling for medium to short journeys. We can do this by improving the connectivity and quality of our streets and open spaces, providing additional infrastructure for cyclists and prioritising pedestrians and cyclists within the public realm.

Greater Manchester Context

The Greater Manchester Transport Strategy 2040 sets a target to make 50% of journeys in Greater Manchester made by public transport or active travel to support a reduction in car use across the region.

Transport for Greater Manchester is working on a ten-year plan for Greater Manchester called the Bee Network.

The Bee Network will deliver new and improved cycling and walking network, reduce car use for everyday trips, promote more sustainable journeys across the region by 2040 and create broader benefits such as better health, reduced congestion on roads and cleaner air.

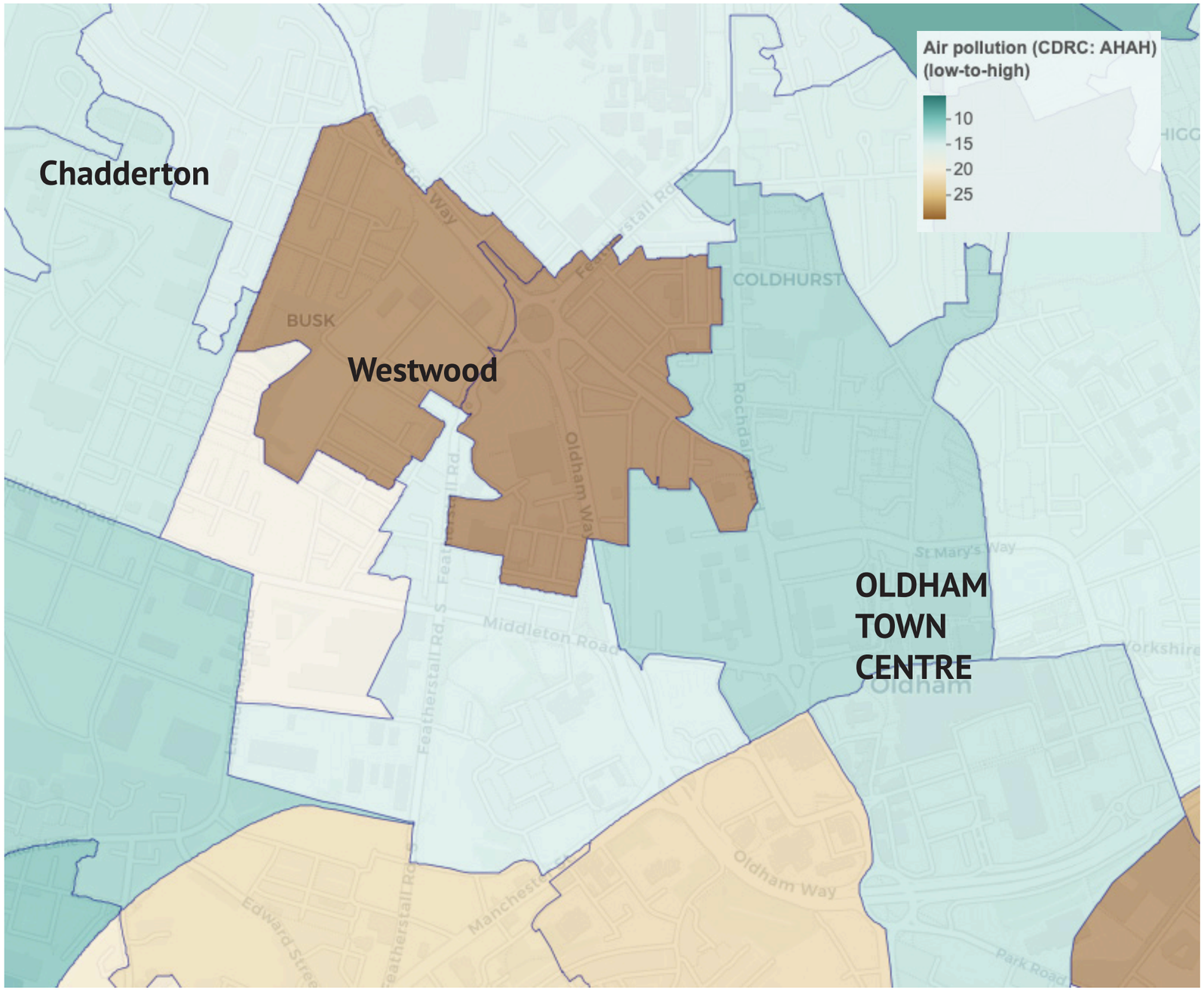
In Westwood...

There are high levels of air pollution in Westwood due to vehicle traffic and rat-running coming into and through the neighbourhood.

Air Quality

We found that data for Westwood shows that there are medium to high levels of air pollution in the area.

During the COVID-19 lockdown, air quality within Westwood improved as there was not as much traffic on the roads and this equally improved uptake of cycling; as there was not as much traffic on the road, it made it easier and safer to cycle on the roads.



Spatial Data Plan: Air Pollution CDRC: Access to Healthy Assets & Hazards (AHAH)

What we found out

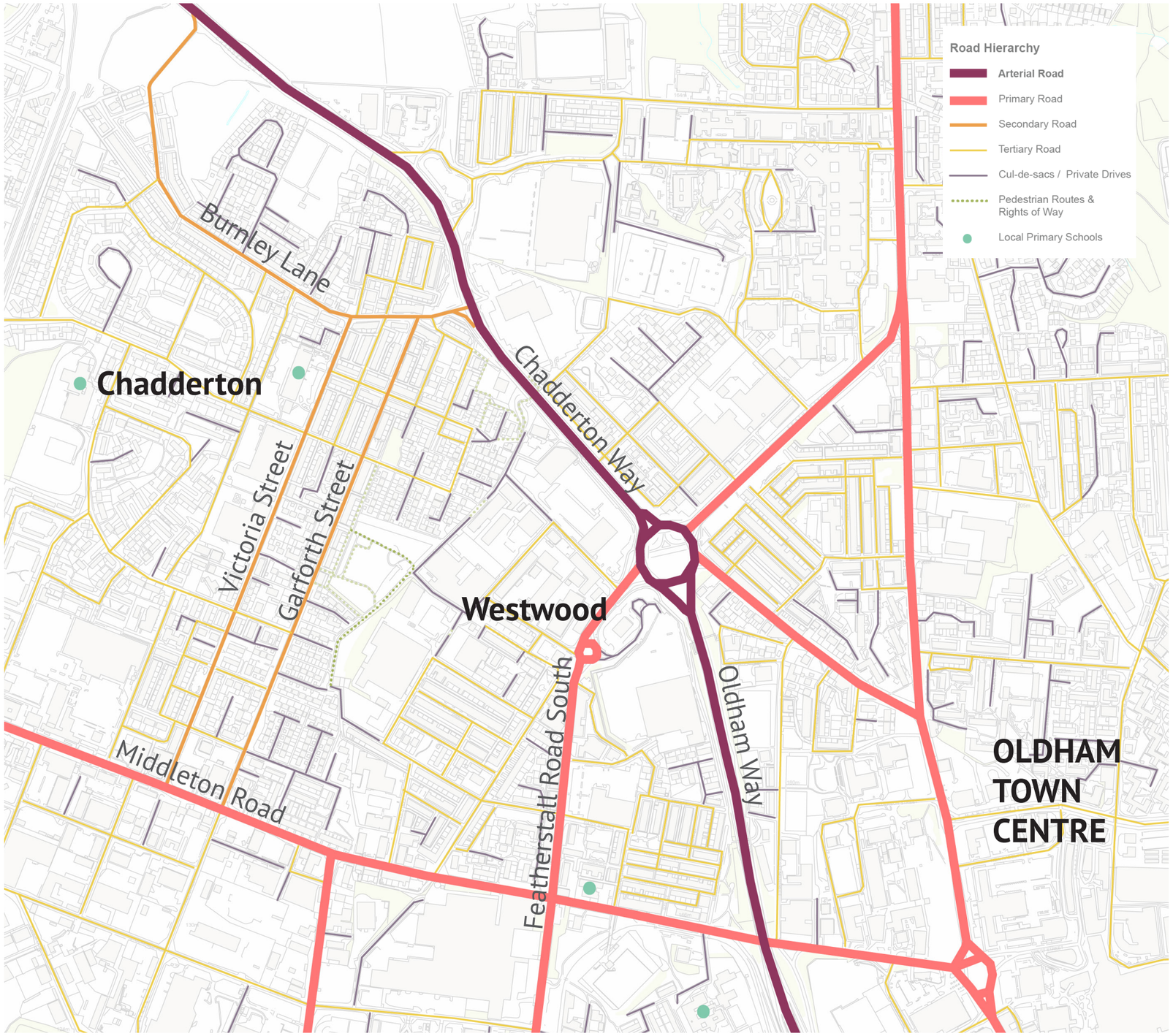
Street Hierarchy Plan: Neighbourhood Proximity to Arterial Roads

The Street Hierarchy Plan identifies Oldham Way and Chadderton Way, two major arterial roads that form the eastern boundary edge of Westwood. These roads often get congested by traffic during peak hours.

Featherstall Road South connects to these arterial roads via the Featherstall Road South Roundabout and forms a through route bringing traffic into Westwood from Middleton Road and divides the neighbourhood into two parts.

Traffic Ratrunning and Speeding

Victoria Street and Garforth Street are also prone to rat-running and speeding as they form a connection between Middleton Road and Chadderton Way.



Baseline Mapping: Street Hierarchy Plan of Westwood, URBED

The physical road connections between these roads and their straightness encourage rat-running and speeding through the neighbourhood.

This causes a conflict for potential east-west journeys within the neighbourhood by bike and foot for residents living east of Featherstall Road South taking kids to school at Burnley Brow Community School west of Victoria Street and Garforth Street.

This tension creates an unfriendly environment for active travel which encourages people within the neighbourhood to drive locally.

There is a lack of a walking and cycling culture in the neighbourhood.

Whilst many of the primary schools in the area are within walking distance of homes, many people in the community still choose to drop their kids off at school by car. Many people living in the area prefer to drive to work too.

"We used to walk our kids to school but now we drop them off by car. What would it take to create a greener culture change in Westwood?"

(Westwood resident, 2021)

"If you live in that local area you'll feel the vibrations as they [lorries] go past – it's designed for that factory...they've never consulted the local area"

(Westwood resident, 2021)

There are tensions between residential and industrial land uses in Westwood, with HGVs and LGVs entering residential areas.

We find that many HGVs associated with the factories and businesses in the area use the residential streets in Westwood for access, contributing to noise and air pollution and disrupting the lives of residents on these streets.

Image (above): The Armacell factory located close within Westwood currently requires large HGVs and trucks to enter into the compound through the residential area.

What we found out

The amount, quality and maintenance of the public realm and open space discourage active travel within the neighbourhood.

In Westwood, we don't have access to any large green spaces, and those that exist in the neighbourhood are only small pocket parks.

The streets too in Westwood are not very green; there is a lack of street trees and planting, and parked cars mount pavements all along the residential roads, discouraging people from walking along them.

Some people in the community also don't respect the environment and litter and fly-tip the streets and open spaces.

"There is so much litter and too many parked cars along the pavement... that makes me drive instead of walking to where I want to go in the neighbourhood."

(Westwood resident, 2021)

"The car is the only way to go because it's so much easier. If there was a cycling path, I would use it."

(Westwood resident, 2021)

Mapping: Access & Quality of Green Spaces

There are no large green spaces within Westwood, and those that exist in the neighbourhood are small parks/pocket parks and where they exist, there are some local concerns with them. The workshop participants highlighted the following few key green spaces within the area:

1. Berries Park - This park is the neighbourhood's main park and is well used. However, there are some issues with flytipping and antisocial behaviour at night in the southwestern corner of the park. The group suggested that the park needs to be opened or lit up.
2. There's also a need for lighting on key cycle routes near the park. Also, there were problems with parking in the back alleys and subsequent littering (generally by people driving there who don't live in the vicinity).
3. Mosque Garden - is a beautiful Mosque Garden but right next to the road with lots of traffic.

"When we were in primary school... they [the council] were working with the school to open it [the Armacell site] to the public, but they never opened it up"

(Westwood resident, 2021)

4. Shaheed Minar Memorial Garden - Maintenance issues with people throwing bird feed and rubbish on the ground because there are no bins. There is nowhere to sit too.
5. The participants suggested that the area could be improved with lighting and seating.
6. Armacell Private Land - This area of green used to be open to the public, but it is gated off now. The participants suggested that it could be a nature trail.

Baseline Mapping: Greenspace mapping of Westwood, URBED

What we found out

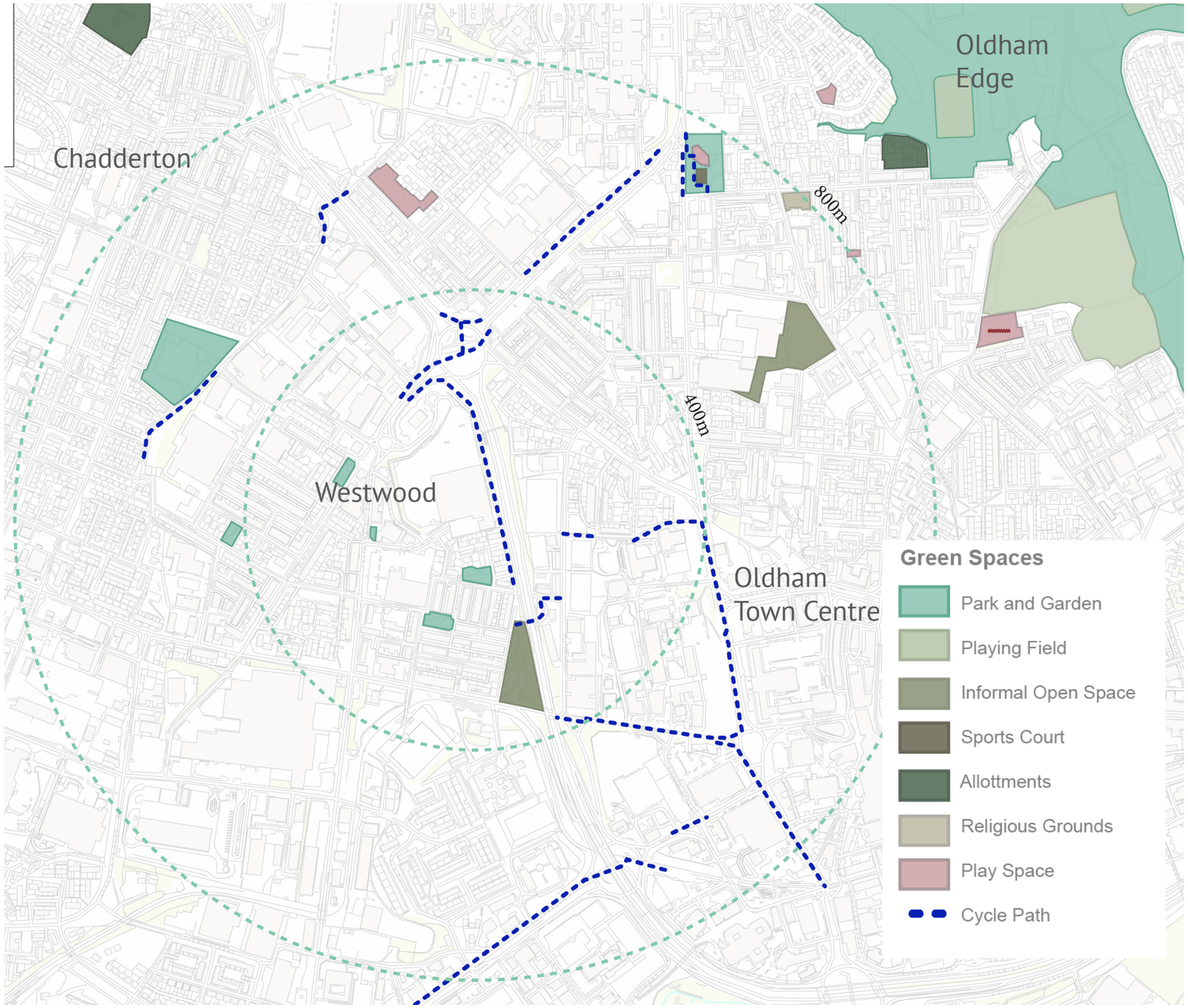
There is a lack of cycle infrastructure in Westwood that connects to the wider cycle network beyond the neighbourhood.

We find that the existing cycle networks in Oldham do not connect well to Westwood. The cycle paths within the neighbourhood are patchy and do not lead anywhere, as evidenced in the adjacent plan showing the existing Cycle Network and green space in Westwood.

In particular, there is an opportunity to extend the cycle network from Westwood up to the Royal Oldham Hospital and beyond to Oldham Edge and improve cycle connections to Manchester.

"We have very few cycle lanes in Oldham..."

(Westwood Resident, OEF Community workshop 3 2021)



Baseline Mapping: Existing Cycle Network and Green Space in Westwood, URBED

Why is this important to us?

- Heavy traffic through the neighbourhood is causing high levels of NOx air pollution and contributing to health problems for people in our community.
- We need actions to provide an alternative to car use for short journeys to school/work and activities that will foster a walking and cycling culture for short trips.
- Getting out and about walking or cycling burns calories, gets your heart pumping and works your legs and abs. It can also lift your mood and improve your general health and well-being.
- Choosing to walk or cycle instead of driving will reduce the overall impact on air quality, reducing NOx pollution from vehicles.
- We need to address the use of large HGVs and LGVs in the area and reduce noise disruption and air pollution in the residential areas.
- We need a vision and set of actions in Westwood that make the public realm and open spaces more pedestrian-friendly and less dominated by cars / industrial uses.
- Reducing car use in the area will help reduce carbon emissions from transport locally.
- We also need to improve the provision of cycle infrastructure, which will help encourage more people to travel by bike within and beyond the neighbourhood rather than using cars, which will help tackle air pollution in the area.

OEF Workshop 3: Sustainable Travel: Neighbourhood Walkabout diagnosis

What can we do?

1 What we can do as a community

To address the lack of a walking and cycling culture in the neighbourhood we could:

1G) Develop a Cycle Hub at the Millennium Centre

We could develop an active travel hub at the Millennium Centre, where local people could trial and borrow bikes fitting their needs.

The hub could be located within the Westwood area, providing training and social activities and two-seater bikes and tricycles to make the scheme widely accessible. We could provide bike maintenance courses or support as part of the cycle hub.

1H) Develop a Neighbourhood Walking Group

We could develop a Neighbourhood Walking Group that meets at the Westwood Millennium Centre.

The community could contact Oldham Social Prescribers, Action Together and Oldham Healthwatch for support in organising the group and walking events in the area. The scheme would need a community group or leader to drive forward the project in the local area.

Precedent: Third Age Project Bangaldeshi Women's Walking Group

The Third Age Project was established as a charity in January 1997 to serve local older people's health and well-being needs in London. The Third Age Project organises several health-related group activities, including a Bangladeshi Women's Walking Group, popular amongst the Bangladeshi community.

The group meet every Thursday morning, and it is volunteer-led. They begin their walks from outside the Third Age Project centre in Cumberland Market, often taking a picnic to eat in the park.

Precedent: Chrisp Street Community Cycles (CSCC)

Chrisp Street Community Cycles is a cycling hub in a disused shop on a busy Poplar high street in Poplar, Tower Hamlets.
The project is a partnership between environmental charity Hubbub, walking and cycling charity Sustrans and housing association Poplar HARCA.

The project was set up to empower women in Poplar, specifically in the Muslim community, to cycle more, improve their health and wellbeing, build their confidence and create role models to inspire others. A programme of activities was designed alongside cycling experts, community leaders and Muslim women in the local community.

Chrisp Street Community Cycles is open to the whole community. It is a friendly, inclusive space to make cycling accessible so more people can enjoy getting around by bike.

CSCC runs activities for children, families, and adults and for a whole range of abilities, including 'Learn to Ride' for beginners, skill sessions, and social rides for those with more experience. CSCC also provides an opportunity to borrow bikes and offers bike repair skills.

In February 2022, CSCC produced an Impact Report stating that to date, CSCC has run 23 "Learn to Ride" sessions, including family sessions and women-only sessions, as well as 10 "Improve your cycle skills sessions (Bikeability Level 1).

The hub has also developed 4 "On-road cycle skills sessions (Bikeability Level 2) and 11 "Guided Rides", including family and women-only rides. To help people with bike repairs, CSCC organised various bike repair training sessions and fixed over 182 bikes.

Images (above): Chrisp Street Community Cycles bike hire and training session.

What can we do?

To address the high levels of air pollution in Westwood due to vehicle traffic and rat-running coming into and through the neighbourhood we could:

1I) Organise School Streets locally

We could contact local schools in the area and organise school streets with them. A school street is a temporary restriction on motorised traffic at school drop-off and pick-up times. The restrictions apply to school traffic and through traffic and result in a safer, healthier and pleasant environment for young people to walk or cycle to school.

We could start by raising the air quality issues in the area with the school leadership and teaching staff and involve them in developing the school street.

Futher information on how to set up a school street can be found at: http://schoolstreets.org.uk)

Precedent: Hackney School Streets

Hackney Council was one of the first local authorities in the world to implement School Street schemes, setting up a programme in 2017 and piloting School Streets outside five schools.

In May 2019, Hackney Council launched a School Streets Toolkit for Professionals, summarising positive findings from the pilot schemes. In November 2019, Hackney Council assessed all primary schools in the borough for a School Street and installed a further 37 School Streets outside schools across the borough, making the five pilot schemes permanent.

To improve the amount, quality and maintenance of the public realm and open space to encourage active travel within the neighbourhood we could:

1J) Create a Neighbourhood Walking Green Loop

As a community, we could develop a vision for a green walking loop in Westwood that links up various local destinations and open spaces in the neighbourhood.

As part of this vision, we could:

- Green particular streets with new street tree planting;
- Improve the quality and maintenance of local pocket parks;
- Support community gardening/food growing initiatives;
- Create new accessible green spaces for people and wildlife to coexist; and Identify further opportunities for the project to provide training and skills in landscaping, permaculture and community food growing.

We can work with Oldham Council to help us identify the land ownership within Westwood and which parcels of land we may integrate as part of this green walking loop.

We have already mapped a potential route for the loop, which could be used as a basis to develop a funding bid for the GM Green Spaces Fund. The GM Green Spaces Fund helps support initiatives to improve the environment in green and innovative ways.

The fund will be available soon and will provide small grants on a rolling basis until 2024 to communities to clean up and enhance pocket parks and local green spaces and create new ones where they are needed.

Image (above): OEF Workshop 6, mapping a potential neighbourhood walking green loop.

What can we do?

2 What you can do as Oldham Council

To improve the amount, quality and maintenance of the public realm and open space to encourage active travel within the neighbourhood you could:

2E) Develop a wayfinding project to improve signage and safety for pedestrians

We identified several challenges and opportunities in the neighbourhood during the Oldham Energy Futures workshops and would like to work with the Council to make improvements to address them.

We determined that a wayfinding project and new signage in the community would be helpful to indicate the walking distance to key destinations in the area, for example, the Millennium Centre in Westwood. The signage could reflect Westwood's local identity and heritage. We also noted that additional external lighting along key walking routes could improve the sense of safety in the neighbourhood at night.

The Council could develop a brief for this project with Westwood community stakeholders and bring on board designers to help us design the signage. We could involve cultural institutions like Oldham Central Mosque in the design process.

2F) Support the development of a Westwood Community Neighbourhood Green Walking Loop

The Council should support the community of Westwood in developing the neighbourhood walking loop to encourage active travel within the neighbourhood.

2G) Provide residential parking permit areas within residential areas of Westwood

The Council should work with local councillors to create a residential parking scheme for residential streets in Westwood.

A residential parking scheme will encourage visitors to park within designated car parking areas and discourage fly parking in the residential areas, especially when events attract people from across the Borough to the area (i.e. Friday Prayers at the central mosque).

Discouraging parking on residential streets may also reduce the number of people driving to Westwood and encourage visitors to use alternative public transport options such as the tram and bus when travelling to Westwood.

2H) Provide Access to Open Space next to Armacell Factory

Historically a space adjacent to the Armacell Factory was meant to be left open for our community to use but was later fenced off.

We would welcome the opening of the green space fenced off next to the Armacell Factory, as the Council had previously identified it as a potential green space that would be kept accessible and open for the community.

Oldham Council should work with the community to open up discussions with Armacell about using this green space fenced off in Westwood and work with the community to develop a new public open green space for the community to enjoy.

What can we do?

To address the tensions between residential and industrial land uses in Westwood, with HGVs and LGVs entering residential areas and...

To address the lack of cycle infrastructure in Westwood that connects to the wider cycle network beyond the neighbourhood you could:

2I) Review the Chadderton North and Westwood Active Neighbourhoods Feasibility Plan with the Westwood Community

ARUP and Sustrans produced a neighbourhood feasibility study from the Active Neighbourhoods work in 2021.

You, the Council, could work with the local community in Westwood to co-design the improvements within the Active Neighbourhoods area with the community and work to integrate it within the wider context of the areas surrounding the Active Neighbourhood Areas; in particular the area west of Featherstall Road North.

The project could ensure that the reconfiguration of streets, provides road safety measures such as speed management and HGV routing to create a more pleasant experience for active travel within the neighbourhood in particular, addressing the routing of the HGVs to the Armacell Factory.

2J) Work with the business community to explore more sustainable transport modes for LGV deliveries.

You could work with the local business community in Westwood to explore opportunities to replace LGVs with electric cargo bikes to support the delivery of goods across the area. You could explore examples of businesses such as Pedal Me who own a fleet of cargo bikes and provide a network that supports the delivery of goods across the London.

The have also published research that shows the value that they bring to supporting businesses in making the move from LGVs to cargo bikes.

To address the high levels of air pollution in Westwood due to through vehicle traffic and rat running coming into and through the neighbourhood you could:

2K) Support School Streets in partnership with local schools in Westwood

The Council should actively work with local schools within the neighbourhood to develop plans for school streets to encourage residents to walk or cycle locally to school with their kids.

2L) Work with the local business community to decarbonise their HGV fleet

Oldham Council should work with specific large businesses with specific vehicle usage profiles. The Council should work with local businesses to identify where their larger fleets that cannot be replaced with cargo bikes could decarbonise and move to EVs and develop trials and incentives for businesses to transition to EVs.

Oldham Council could work with the business community to hold knowledge-sharing events with existing adopters to help with sharing knowledge, and 'myth busting' and raise awareness of grants for vehicle purchase and charge point installation.

Oldham Council could work with the Climate Group's EV100 initiative and get local businesses to sign up to help them deliver renewable energy plans to transition their business to EVs.

What can we do?

2M) Develop EV Charging Points on Oldham Council owned car parks

Oldham Council could set up rapid charging infrastructure in Local Authority-owned car parks in Westwood. The Council could also work with the local businesses in the area to set up rapid charging infrastructure.

The Council should liaise with Electric North West to understand the costs and sub-station capacity.

2N) Develop On-Street Residential EV Charging Points

Oldham Council could analyse the existing LA-wide car ownership pattern in combination with data on socio-demographic characteristics. This can identify key streets with both the correct demographic profile for 'early adopters', and on-street parking pressures to locate streets that might benefit from charging points.

Additionally, Oldham Council could set up a scheme for residents to request a charge point in their street to gauge their interest.

The Energy Savings Trust provides local authorities with funded support via a range of services, including the evaluation of roll-out of EV charging infrastructure, business and community engagement, and more.

Oldham Council should proactively plan for on-street residential charging and install on-street charge points in Westwood.

They can apply for grant funding from the Office for Zero emissions for residential on-street charge points. The On-street residential charge point scheme (ORCS) provides funding for 70% of the cost of installing on-street charging points. Local authorities are invited to submit applications for grants of up to £7,500.

7 As Transport for Greater Manchester

To address the high levels of air pollution in Westwood due to through vehicle traffic and rat running coming into and through the neighbourhood you could:

"A Westwood bike hub where you could learn how to ride a bike and hire (e)bikes out would be great."

(Westwood Resident, 2021)

7A) Extend the GM Cycle hire scheme to the Oldham Borough

Transport for Greater Manchester could work with Oldham Council to extend the Bee Network cycle hire scheme to cover Oldham Borough.

7B) Support and fund Active Travel schemes

Transport for Greater Manchester could work with Oldham Council and the Westwood community to support schemes identified to improve active travel within and beyond the neighbourhood.

7C) Provide safe and secure cycle infrastructure and facilities for cyclists travelling within and beyond Westwood

Transport for Greater Manchester could improve the streets in our neighbourhood, making them safe and attractive to cycle along and connect to destinations beyond the neighbourhood. We would like to see a better cycle connection north to Oldham Royal General Hospital and further afield to connect with Oldham Edge and better cycle connections south to Manchester.

These direct connections will make cycling for residents of Westwood more appealing as a mode of transport, creating direct routes to places of work, healthcare, leisure and education and will build the culture of cycling for residents in Westwood.

Planning should also consider secure bike parking at key public transport access points to ensure intermodal bike-bus, bike-tram or bike-rail journeys.

03 Community Energy & Local Renewables

What we found out

What's the problem?

UK Context

UK Government's targets to decarbonise the power generation system from 100% renewables by 2035, will cut CO2 emissions by 78% compared with 1990s levels.

Our reliance on fossil fuels to supply our energy is therefore shifting. As a country, we are moving to replace this with renewable energy sources such as solar, wind, and hydro.

The contributions made by renewables to UK power generation has more than doubled since 2014 with renewables accounting for 43% of the UK's 312TWh of domestic power generation in 2020.

However, installing new renewable generation in the UK is not at the scale needed to achieve our carbon reduction targets.

The Climate Change Committee has indicated that we need at least a fourfold increase in renewable generation deployment by 2050, and this will be needed at all scales, from offshore wind projects to domestic rooftop solar low carbon transport projects.

Greater Manchester Context

The City Region's Carbon Neutrality target is 2038. In order to be able to achieve this target, an accelerated uptake and deployment of low carbon measures is necessary.

Greater Manchester Combined Authority's (GMCA) number one priority as outlined in its 5-Year Environment Plan (2019) is increasing local renewable energy generation, adding at least a further 45MW by 2024 via commercial and domestic PV, onshore wind and biomass. The plan highlights Community Energy as a key delivery partner in achieving these targets.

In March 2019, over 60 people from community energy groups, Electricity Northwest, public and private sectors including local authorities and GMCA, social investors, commercial property developers, renewable energy installers, local and national charities and organisations, contributed to the development of a Community Energy Vision and Action Plan for Greater Manchester.

The vision and action plan sets out the target that by 2024 Community Energy will be generating at least 10% of Greater Manchester's renewable energy targets, and will maximise carbon savings through energy efficiency and support a socially just low carbon energy transition. The North West has over 30 Community Energy organisations deploying just under 13.4MW.

What is Community Energy?

Community energy refers to a community of people joining together to find or enable solutions for carbon reduction.

This can be by collectively investing in local renewables from domestic solar to entire wind farms, but also offering local energy efficiency or advice services as well as, for example, transport projects like electric car-sharing or green community transport.

Community energy can range from small volunteer-run organisations that own a couple of small assets to large and highly professional businesses. They are set up for the benefit of their communities and democratically controlled by their members.

The main financial tool used is citizen investment with a 'one-member-one-vote' control, meaning that however much you invest, you will only ever hold one democratic vote in the company.

Surplus profits are re-invested to support further local environmental and social initiatives and services.

The Community Energy sector has been playing a part in helping to reach local and national net-zero targets whilst generating social benefits within the energy transition.

There are over 424 active community energy organisations across the UK that have reduced energy bills by £2.9 million and generated £3.13 million pounds for community initiatives.

In 2019 the total energy generation of the UK community energy sector was estimated at 250MW, which accounted for 0.12% of total energy generation and 0.36 of renewable energy generation. The current prognosis is that, given the right policy environment, the community energy sector could grow 12 - 20 times larger than today by 2030.

Co-benefits of locally and community owned renewables

There can be significant direct and indirect social and economic benefits to supporting renewables to be built locally and particularly projects which are partly or wholly owned by local communities.

These additional benefits can include:

- More local jobs in construction and operation.
- Keeping project income and benefits within the local economy.
- Improved local environmental impact.
- Lower energy prices for local households and businesses
- Greater local energy security and resilience.
- Income that can be reinvested for the benefit of the community.
- Enhanced community engagement and empowerment.

See the full report by CAG consultants for Devon County Council here: https://cagconsultants.co.uk/devon-county-council-report-on-socio-economic-benefits-of-community-energy-prepared-by-cag-consultants

What we found out

Precedent: Plymouth Energy Community

To tackle climate change and fight fuel poverty, Plymouth City Council collaborated with the local community to establish the Plymouth Energy Community (PEC).

PEC have established two companies: one that installs renewables and one that works to support people with energy efficiency measures.

To date, PEC has successfully installed 6MW of solar generation which can provide electricity for up to 2,000 homes. A local community land trust receives an annual land rent from the ground-mounted array, and the income is used for local projects such as a community allotment garden.

PEC has accrued surplus of around £1.5 million, which they are reinvesting further into their carbon and fuel poverty reduction projects.

PEC has become a true pioneer in the municipal energy transition, and is specifically a good model for how local authorities can work with and nurture community efforts to improve energy efficiency and address social issues. Most importantly, PEC encourages residents to take charge of building a just city fit for future needs.

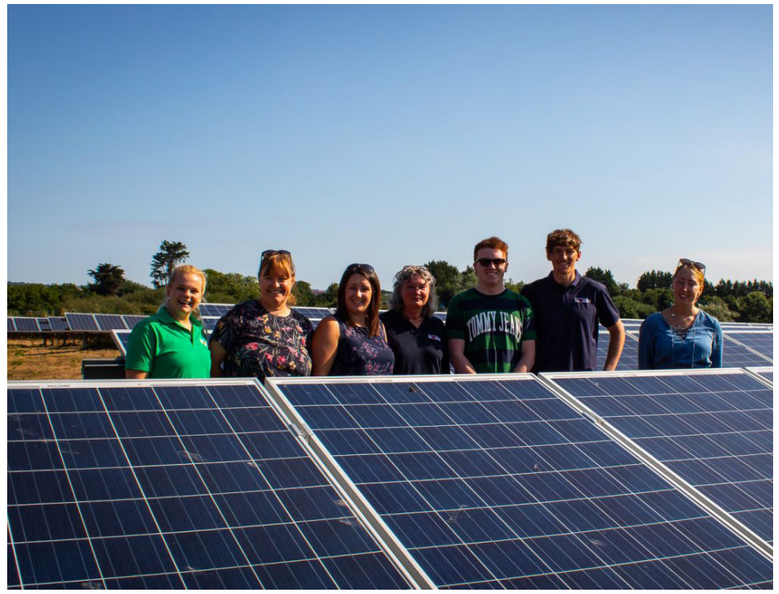


Image (above): Plymouth Energy Community

In Westwood...

There are several large commercial buildings and schools & community buildings where solar PVs could be installed to increase local energy generation.

We explored options for developing community renewable energy projects in Coldhurst. In the urban context of Westwood, wind and hydro are not feasible, but there was an opportunity to explore the solar potential of building rooftops in the area.

Using the solar potential data supplied by the project, we identified ten buildings in the area showing an excellent likely investment rate of return (between 6.1% and 15.9%). They are a mix of community buildings and local and UK-wide businesses.

"Westwood's roofs have value. Sooner or later, someone will realise that. What we want to do is get the value now and use it for the good of the community."

(Westwood resident. 2021)

We believe that there is a high chance of getting community buy-in on a renewable energy project in local community buildings due to the strong community network in the area.

We have a good relationship with the local mosque, some schools in the area, and some land and building owners.

"We have a good relationship with Oldham Central Mosque and links with the local business owners in the area."

(Westwood resident. 2021)

Many non-domestic commercial buildings in the area have potentially high energy demands onsite and in the daytime, which is important to make a community energy project viable.

Some factory buildings already have installed solar panels on them, suggesting there is appetite and precedent for local businesses to introduce solar panels on their rooftops.

What we found out

Oldham already has a community energy group, which we could collaborate with: Oldham Community Power

Precedent: Renewable Energy PV Oldham Community Power development on School and Community Buildings

Oldham Community Power (OCP) was first launched in December 2014. In 2015, they 25 schools and 25 community buildings for their suitability for rooftop solar.

At the end of 2015, OCP received a UCEF grant to develop their work and in February 2016, they became incorporated as a Community Benefit Society.

They launched a Community Share Offer to raise funds for the first round of rooftop solar PV installations and began installing them in August 2016 on several school buildings.

To date they have developed rooftop solar on a number of community buildings across Oldham.

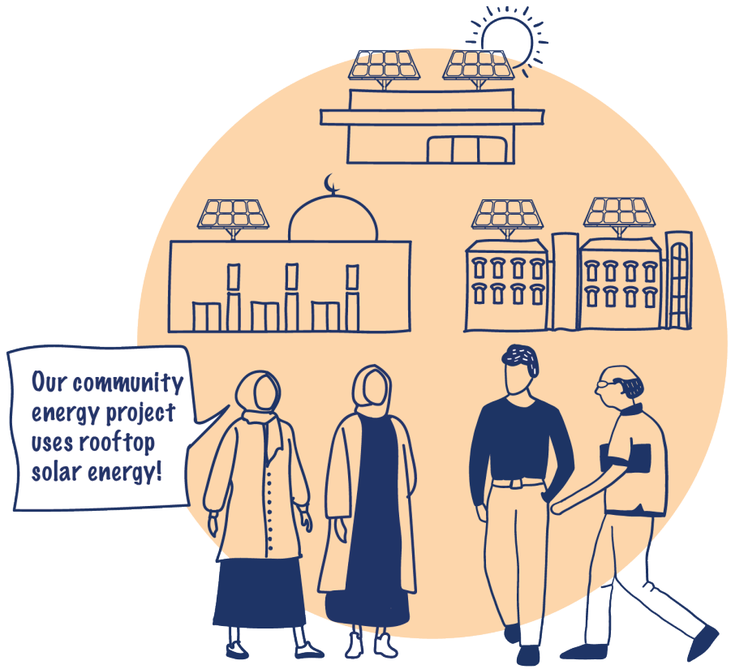
One example project is the installation of 112 solar panels on the rooftop of Beever Primary School in Derker, Oldham which was completed in August 2016.

The solar energy capacity is 29kW with 23,121kWh of energy generated over sixteen months with a saving of 10,379kg of CO2 within this period.

Image: Oldham Community Power

Why is this important to us?

- We can help decarbonise the energy system by generating renewable energy locally on rooftops of our homes, businesses and community buildings.
- Whilst there is a huge investment in large-scale renewables to feed the grid (particularly off-shore wind), we are way off the 100% decarbonised grid electricity goal. Medium-sized onshore renewables will be a crucial part of delivering the increase in the renewable generation we need.
- As the nation moves to more electric heating and electric cars, the national grid will have to reinforce the network to transmit the extra load. Producing renewables where the energy is needed can reduce the need for additional network infrastructure.
- When we install solar PVs on community anchors such as local community centres, it helps them reduce their energy costs and creates more local resources available for them to focus on delivering social services.
- Local and community owned energy can create additional benefits for us by saving on our bills, boosting the local economy and even creating surplus that can be re-invested in the local energy transition.
- Rising electricity wholesale prices have also focused minds on the need for more home grown energy, as well as on the need to hedge against future price rises.



What can we do?

1 What we can do as a community

To encourage more local renewable energy generation in Oldham...

To have more renewable energy generation in Oldham owned by the community and...

To support Westwood residents to produce their own energy on their homes and businesses:

1J) If you are a homeowner or a landlord, you can invest in solar installations on your roofs

It is important to note that rooftop solar should be considered as part of a wider set of energy efficiency measures. The first step is to reduce heating needs by insulating the home well.

Every property is different and a full home assessment for energy efficiency will produce a list of recommendations for energy efficiency measures including solar and storage technology.

Domestic solar PV is a 30-year investment. Solar Energy UK research, with modelling carried out by the University of Cambridge and sustainability consultants Think Three, shows that installing solar on a typical home could increase its value by around £2,000, and reduce running costs by more than £300 a year over the lifespan of the system. (The running cost figure is based on gas and electricity prices from Spring 2021: the comparative savings will have gone up significantly because of the energy price crisis).

The increasing price of energy is significantly reducing the payback period for domestic solar, but how quickly you see a return on investment will depend on the size of the system and how much of the energy you are able to use on-site.

In order to make solar energy cost efficient it is important to maximise self-consumption of the energy produced, this means installations on properties occupied during the day will be much more cost effective.

While you can sell the excess electricity to the grid via the Smart Export Guarantee, the price per unit sent to the grid will be a fraction of what you pay for energy from the grid.

Payment rates vary depending on the supplier so it's worth checking who is currently paying the most.

Excess energy can be stored in different forms. If you have an existing immersion tank for your hot water, installing a solar diverter (such as iBoost, immerSUN or eddi) could prove the most cost effective option.

There are also options around battery power storage and also heat batteries but these are still costly and whether they make sense for your property will depend on the size of your installation and your energy usage pattern.

If you are interested in exploring these ensure that you ask for quotes which separate out the battery installation cost and payback estimation from your overall solar estimates.

It might still be worth considering

maximising the installed capacity even if you won't initially use all electricity in-house, to prepare for future installations, such as low carbon heating technology run with electricity or an electric car charging point.

The best way to start is by doing some research, for example read the Energy Savings Trust pages on solar here: **https://energysavingtrust.org.uk/advice/solar-panels/**

Then ideally get 3 quotes from solar installers. They should be MCS certified and you can find installers in your local area on the MCS website here: **https://mcscertified.com/find-an-installer/**

Annual savings/income per year (with Smart Export Guarantee) in Manchester, North West, UK with domestic solar

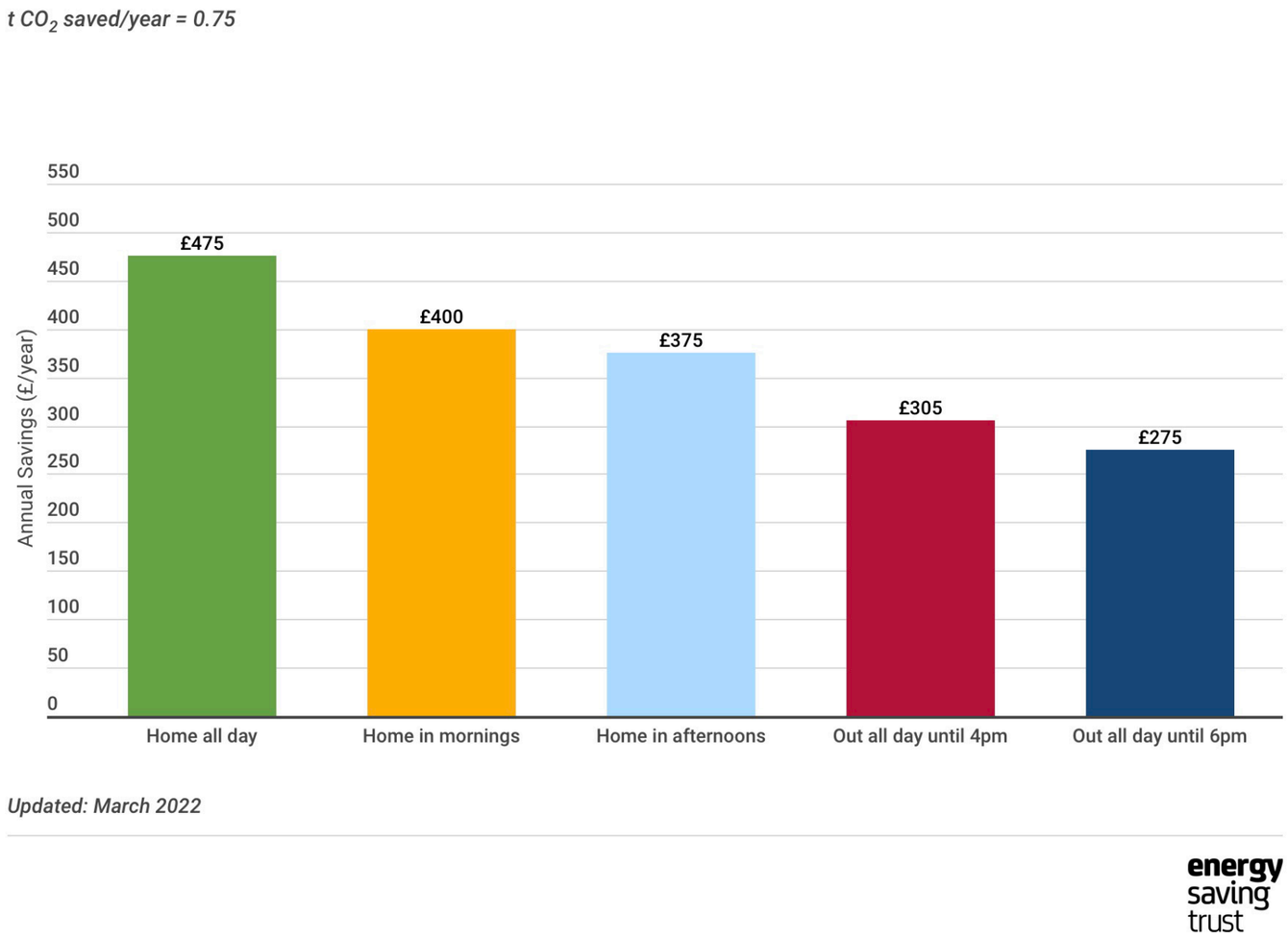


*Image (above): Annual savings/income per year (with Smart Export Guarantee) in Manchester, North West, UK with domestic solar (Taken from Energy Savings Trust: **https://energysavingtrust.org.uk)***

What can we do?

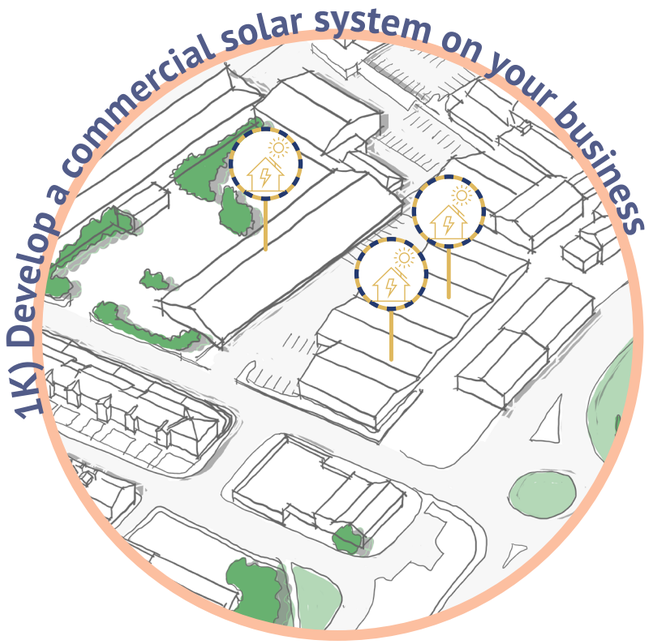
1K) If you own a business or run a school, leisure or community centre, a commercial solar system can help to reduce your costs and your environmental impact if you have a high on-site electricity usage all year round and in the daytime.

The payback period on a commercial rooftop solar system can be less than five years according to Solar Energy UK research – after which it will effectively produce free electricity for at least a further 25 years. This depends on the size and position of your roof and how much energy you use on-site in the daytime.

You can contact a solar installer to undertake a free desktop assessment of your property to start off with. If initially suitable you can order a full survey, laying out savings and costs. A full MCS assessment should be able to give you an estimated payback time.

If you don't have the investment capital available you could work with a local community energy company. They will raise the money and install and maintain the solar array.

You will buy the power via a Power Purchase Agreement for a considerable reduction in comparison to grid prices. You can invest in the company yourself and receive an annual return and any profits are reinvested for environmental community benefit.



1L) Invest in community energy

You can become a citizen investor. This means you buy shares and become a co-owner of local (or national) community renewables projects.

This will usually give you a return on investment of 4-6% and a democratic vote in the organisation. Shares usually start at between £100 - 250.

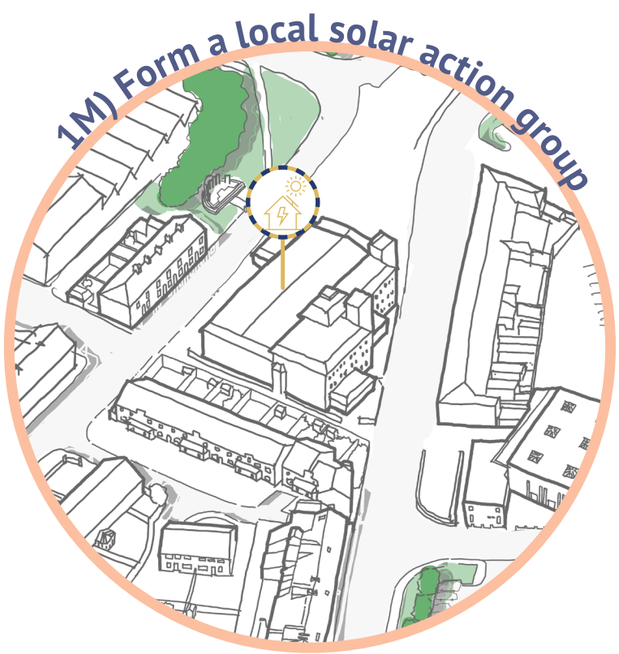
You can learn more about becoming a community share investor here: **https://www.uk.coop/support-your-co-op/community-shares**

1M) Form a local solar action group

Form a local group to raise awareness of and encourage more locally owned solar in your area.

This work could be integrated into the energy efficiency hub or as part of an existing community, residents or tenant group; this can be run as a time-limited funded project, delivering one or several activities.

You can access information and support needed through Community Energy England.



1N) Build awareness with local businesses, schools or community centres

With energy prices rising many local businesses and organisations would benefit from solar on their roofs.

You could contact the buildings already identified in the existing data on St. James's ward non-commercial solar roof potential to raise awareness and encourage them to install solar.

If they lack the necessary capital investment, they could benefit from community energy (see 2K).

You can find the style of engagement that works best locally, this might be sending out official emails with a flyer attached, using personal contacts or organising an official event with the local business network.

1O) Identify roofs with solar potential

The group can extend on the existing data on Coldhurst non-commercial solar roof potential by doing further exploration of roofs, possibly also expanding reach into neighbouring wards.

You could do local engagement activities like a public 'roof spotting' campaign or a series of workshops to identify roofs with potential in Oldham. You can use these events also as a way of engaging new people, combine it with a talk by community energy or solar experts or a witness account/site visit with someone in the community who already has solar.

Bath & West Community Energy has a 'roof spotting' guide for citizens that gives in-depth information on the kind of roofs that are suitable and likely to give a good return on investment. For the techy people in the group, have a play with this software here: **https://easy-pv.co.uk/home**

What can we do?

1P) Work with an existing community energy group or start your own

Oldham has a community energy group already called 'Oldham Community Power'. There is potentially another group developing around the Northern Roots project.

These are already set up as organisations that can raise finance and deliver solar projects. You can contact them and ask if they are interested in collaborating with you, so e.g. you make the connections to local businesses and organisations for solar opportunities and they deliver the solar projects.

Or you can set up your own organisation. You can find resources on how to do that and support from Community Energy England. Or you can look into working with a national community energy organisation called Big Solar.

In that case the installation will be financed and owned by the community energy group and the business or organisation can use renewable energy at a reduced cost under an agreement that can lock in the energy price long-term. This is a typical community energy offer.

1Q) Develop mutual homeowner support

If there is local demand, homeowners can work together to create relationships with good quality installers and do the initial research and due diligence.

Research in projects such as Solar Made Easy show that clustering several homes makes it more attractive to installers, who can be hard to get engaged for domestic solar. You may get discounts from installers if they can reduce time from receiving multiple jobs within a local area.

You can then also share your experience with neighbours and do word of mouth social marketing for domestic solar.

8 As Oldham Community Power

To develop more locally and community owned renewables you could:

8A) Concentrate on non-domestic roofs with high solar potential

Post subsidy the community energy model has changed. The sector now tends to concentrate on non-domestic roofs with solar potential of 50kW and higher and an on-site energy consumption of 80% minimum. Smaller buildings with a high social impact like schools and community centres can be included in a larger pipeline of properties for one community share offer.

There are a number of large buildings in either commercial or public ownership in the Coldhurst/St James Ward where arrays of more than 50kW are feasible. For the full data analysis contact us directly.

8B) Work with us

We bring much needed local expertise and connections and will be able to support with identifying suitable roofs and making initial contact.

As a community energy company you can also do an outreach programme in order to build your cooperative's active membership and create pipelines of roofs for the next share offer.

These kinds of activities are best accomplished with project funding employing professional engagement project workers. There are also examples in the community energy sector of localised member action groups, which act as a local task force of trained volunteers.

What can we do?

8C) Create a local membership offer to lower barriers to participation

Create a scaled membership and investment offer through which local citizens can become members without having to invest large amounts in order to lower barriers to participation and strengthen local accountability. Maybe have a local membership offer of £1.

8D) Create community benefit funds

Explore a community benefit model additional to investor benefits that is transparent, citizen-led and can support the most vulnerable.

Precedent: Egni Co-op

Egni Co-op develops rooftop solar energy in Wales and has over 4.5MWp of capacity on 88 sites, including schools, community buildings and businesses.

It's the largest rooftop solar co-op in the UK saving their sites more than £100k in electricity costs and reducing carbon emissions by 1000 tonnes/year.

All surplus goes into climate change education in schools. They work closely with local councils on identifying the right sites across each locality.

The installations are mainly financed by Egni's rolling community share offer which has already raised £4.62M from local investors who receive a 4% annual return on their investment.

Images (above): Egni Co-op solar PV projects

2 What you can do as Oldham Council

To encourage more local renewable energy generation in Oldham:

2O) Support domestic solar

Recommendations are set out as part of the energy efficiency recommendations (see page 24).

2P) Support the scaling up of community owned renewables

Additional to the extensive support already given, here are some further recommendations:

You could support and participate in the development of a multi-stakeholder investment vehicle in order to deliver large scale community-owned renewables projects in Oldham, which can produce community benefit funds to support energy transition projects, especially in the area of energy efficiency/fuel poverty relief.

You could ring-fence funds from Section 106 or Community Infrastructure Levy payments from developers for community energy feasibility studies.

You could create a special financial reserve in the Council budget for investment in community shares for schemes in the borough.

You could give access or first option to public land and assets for community energy especially for larger projects to deliver at scale and maximise value.

You could support community energy through your energy procurement and contracting. This could be via the development of a sleeving PPA pool or via a financial instrument, such as a 'synthetic PPA'. Under a Synthetic Power Purchase Agreement, the council could work with a community energy organisation to set a guaranteed 'strike price' for every kWh of renewable energy that is generated and sign this off in a Renewable Electricity Guarantee of Origination, or REGO.

Please see this best practice guide for some examples. You can contact Carbon Coop for further information.

What can we do?

3 What you can do as a Housing Association

To encourage more local renewable energy generation in Oldham and...

To support Westwood residents to produce their own energy on their homes and businesses you could:

3E) Maximise on solar PV installations on your stock across Westwood

Solar photovoltaic (PV) on properties, especially in combination with batteries or hot water storage and in combination with heat pumps (only after fabric first energy efficiency measures have been done) will protect your tenants against rising energy prices. So where possible integrate into the energy efficiency measures implemented under the decarbonisation grant.

The Social Housing Decarbonisation Fund Wave 1 has recently closed, but the Government has committed £800million for the next three years. Under Wave 2, Housing Associations can apply directly. Work closely with other social housing providers locally to combine efforts and maximise impact.

If you are doing up roofs as part of your maintenance programme, why not take the opportunity to fit solar right away. It is much more cost-effective and also helps in terms of minimising interruptions.

Domestic properties fall under the G98 'connect and notify' protocol, so, therefore, any grid upgrade costs would fall to the DNO and not the applicant. This applies even if you fitted several hundred homes with PV simultaneously by a single corporate owner, which would have positive implications on finance.

3F) Create infrastructure for the local supply chain

You could support Westwood residents and the local supply chain by doing due diligence, creating relationships with quality installers, and sharing this information with local homeowners and landlords.

This could stretch this to actively engage homeowners when you do solar installations in the area to create a cluster of jobs to make the offer more attractive for the installers, which are currently hard to engage for domestic solar installs.

OEF Workshop 4A: Community Solar Mapping

Recommendations Summary

Community Recommendations

This recommendations summary provides actions for our community to address issues and challenges around each energy theme in Westwood.

We are already developing the following project as part of the pilot action group work:

A) Developing the foundations for a Local Energy Efficiency Hub for Westwood.

1) As a community, we could work together to:

1A) Engage in local data mapping in the neighbourhood.

1B) Signpost community members to existing, trusted, energy advice resources.

1C) Offer in-depth home energy assessments.

1D) Set up a tool library.

1E) Develop bulk purchasing of low cost energy efficiency products.

1F) Lobby Westminster to secure a better settlement for energy efficiency retrofit for people living in low income and energy performing homes.

1G) Develop a Cycle Hub at the Millennium Centre.

1H) Develop a Neighbourhood Walking Group.

1I) Create a Neighbourhood Walking Green Loop.

1I) Organise School Streets locally.

1J) If you are a homeowner or a landlord, you can invest in solar installations on your roofs.

1K) If you own a business or run a school, leisure or community centre, a commercial solar system can help to reduce your costs and your environmental impact if you have a high on-site electricity usage all year round and in the daytime.

1L) Invest in community energy.

1M) Form a local solar action group.

1N) Build awareness with local businesses, schools or community centres.

1O) Identify roofs with solar potential.

1P) Work with an existing community energy group or start your own.

1Q) Develop mutual homeowner support.

Local Neighbourhood Energy Action Recommendations in Westwood

Recommendations Summary

Council & Other Stakeholder Recommendations

This recommendations summary provides actions for Oldham Council and other stakeholders to take in order to address issues and challenges around each energy theme in Westwood.

3) As the Council, you could:

2A) Explore borough level options for funding whole house retrofit for vulnerable residents.

2B) Develop the supply chain.

2C) Refresh "Warm Homes Oldham."

2D) Increase energy efficiency targets for new development.

2E) Develop a wayfinding project to improve signage and safety for pedestrians.

2F) Support the development of a Westwood Community Neighbourhood Green Walking Loop.

2G) Provide residential parking permit areas within residential areas of Westwood.

2H) Provide Access to Open Space next to Armacell Factory.

2I) Review the Chadderton North and Westwood Active Neighbourhoods Feasibility Plan with the Westwood Community.

2J) Work with the business community to explore more sustainable transport modes for LGV deliveries.

2K) Support School Streets in partnership with local schools in Westwood.

2L) Work with the local business community to decarbonise their HGV fleet.

2M) Develop EV Charging Points on Oldham Council owned car parks.

2N) Develop On-Street Residential EV charging points.

2O) Support domestic solar.

2P) Support the scaling up of community owned renewables.

3) As a Housing Association, you could:

3A) Access local data to inform strategic thinking.

3B) Coordinate Social Housing Decarbonisation Fund applications.

3C) Pool social housing assets for local good.

3D) Develop an Area Based Energy Efficiency programme in Westwood.

3E) Maximise on solar PV installations on your stock across Westwood.

3F) Create infrastructure for the local supply chain.

4) As the Chamber of Commerce, you could:

4A) Advocate on behalf of the Westwood business community for more local retrofit support.

5) As Oldham College, you could:

5A) Advocate on behalf of the Westwood business community for more local retrofit support.

6) As Landlords, you could:

6A) Upgrade the energy efficiency of your rental properties.

7) As Transport for Greater Manchester, you could:

7A) Extend the GM Cycle hire scheme to the Oldham Borough.

7B) Support and fund Active Travel schemes.

7C) Provide safe and secure cycle infrastructure and facilities for cyclists travelling within and beyond Westwood.

8) As Oldham Community Power, you could:

8A) Concentrate on non-domestic roofs with high solar potential.

8B) Work with us.

8C) Create a local membership offer to lower barriers to participation.

8D) Create community benefit funds.

Glossary

We've put together a glossary of terms to explain some of the most commonly used terms in this action plan:

Absolute zero

A state in which no greenhouse gases are released into the Earth's atmosphere, meaning no carbon removal or negative emissions technologies are used to balance carbon emissions.

Accessibility

'Accessibility' of the transport system often refers to the extent to which the transport system is suitable for people with a range of needs (for example, people with prams and wheelchair users). It may also be used to describe more generally how good the level of transport provision is in different areas.

Active Travel

The terms 'active travel' and 'walking and cycling' are used in this document to encompass a range of methods of active mobility, including trips made by wheelchairs, mobility scooters, adapted cycles and e-bikes.

Adaptation

Refers to adjustments in ecological, social or economic systems in response to the impacts of climate change.

Bikeability

Modern cycle training programme delivered across 3 levels to children and adults.

Airtightness

Airtightness refers to how much air is moving in and out of a building. Typically, the more airtight a building, the more efficient its energy use is, as less energy is being lost through leaks in the building's fabric. However, at the same time, controlled ventilation must be in place to allow for airflow.

Eliminating all draughts in a building. This is sometimes measured in air changes per hour, and extremely airtight houses will have very low levels of air changes. As with all houses, ventilation is necessary to make sure our houses stay healthy!

Carbon emissions (CO2)

Carbon dioxide (CO2) is released or 'emitted' into Earth's atmosphere mostly by the burning of fuels containing carbon, as well as through the decay of plant matter.

Carbon emissions are naturally removed from the atmosphere by plants which absorb carbon to build their tissues and by being dissolved into the ocean.

However, since the 19th century, the amounts of carbon emissions have increased hugely as we burn more and more fossil fuels for energy. CO2 in the atmosphere acts as a blanket to slow the loss of heat from Earth into space, causing global warming.

Carbon offsetting

A carbon offset negates the overall amount of carbon released into the atmosphere by supporting a climate-positive campaign elsewhere, such as funding a renewable energy project.

Car Clubs

Sometimes known as car sharing, car clubs use electronic systems to provide customers unattended access to cars for short-term rental. Business models can be categorised into round trips, where the vehicle must be returned to its home station, and flexible, which allows one-way trips. Vehicles may be owned by individuals and lent out or form part of a fleet owned by a single organisation.

Climate Change

The process of shifting from one prevailing state in regional or global climate to another. Often used interchangeably with "global warming," scientists sometimes also use the term to refer to periods of climatic cooling.

Climate change is typically the preferred term over "global warming" because it helps convey that there are climate changes in addition to rising temperatures.

Climate Justice

A concept that addresses the climate emergency as a social, economic, political and ethical problem whose impacts are experienced unequally. Achieving climate justice involves finding solutions to climate change which create a fairer, more equal world. It is related to the concept of a Just Transition.

Community Infrastructure Levy (CIL)

This is a planning charge, introduced by the Planning Act 2008 as a tool for local authorities in England and Wales to help deliver infrastructure to support the development of their area.

Contractor

Organisations appointed to carry out construction or installation works. Types of contractors for energy efficiency includes electricians, architects, installers, general builders and more.

Decarbonisation

Measures taken by an organisation, industry, business, government etc. to reduce and eliminate carbon dioxide emissions.

Decentralised energy

Energy that is generated off the main grid close to where it will be used, rather than at an industrial plant and sent through the national grid. This can include energy from solar, wind, geothermal or biomass sources, as well as district heating and cooling.

Energy efficiency

Achieving a minimum level of energy use within a building to reduce wasted energy whilst maintaining desired levels of heating, lighting, and cooling.

Energy performance

Energy performance is a measure of the energy efficiency of a building, measured by the amount of energy required to provide lighting and heating for the building.

Energy assessment or energy audit

An energy assessment or energy audit is an examination of a building to find out how much energy is being used within it and to identify improvements which would reduce energy use.

Glossary

EPC – or Energy Performance Certificate

An Energy Performance Certificate – or EPC – is a four-page document which sets out the energy efficiency of a property on a traffic light system of A to G – A being the most efficient. An EPC provides an indication of how much it will cost to heat and power a property.

ESCO – or Energy Services Company

They specialise in managing energy improvement projects. The ESCO may perform any or all of the following services: auditing, developing packages of recommended measures, arranging financing, installing or overseeing the installation of measures, resident and staff education, equipment commissioning, maintenance, measuring, verifying, and guaranteeing savings.

Fabric First

Building 'fabric' is the walls, windows, floors and roof of your home. Fabric first means improving these parts of the home first through making them 'airtight' and insulated to save energy, then looking at renewable sources of heat and power.

Fuel Poverty

A condition that describes households that must spend a high proportion of their income to keep their home adequately heated or are unable to heat their home to an adequate temperature.

Greenhouse gas emission

Gases in the Earth's atmosphere that absorb and trap heat, radiating it back to the Earth's surface in a process known as the greenhouse effect. The primary greenhouse gases include carbon dioxide, methane, nitrous oxide, ozone and water vapour.

Green Recovery

Measures and policies which aim to stimulate economic recovery following the impact of the COVID-19 pandemic whilst also prioritising sustainability and facilitating the shift to a low-carbon economy.

Heat Pumps

These are devices used to warm and sometimes cool buildings by transferring heat energy from a cooler space to a warmer space using technology which works on the same principle as a fridge.

Insulation

Insulation refers to a material (wool, wood fibre etc.) which is used to prevent loss of heat. It can refer to the insulation of a building itself (cavity wall, internal wall, external wall, loft etc.), but you can also insulate smaller elements, such as insulating a water tank or hot water pipe to reduce heat loss and optimise the efficiency of the part.

Kilowatt kW / Kilowatt hour kWh

A standard unit of electrical power equal to 1,000 watts. A kilowatt hour is a unit of energy equal to one kilowatt of power expended for one hour.

LED

An LED – or light-emitting diode – is an electronic device made of semiconductors that emits light when an electric current is passed through it. They are much more efficient than traditional halogen bulbs, which waste a lot of energy as heat.

Net Zero

Net zero is the state in which the greenhouse gases going into the atmosphere are balanced by the removal of greenhouse gases out of the atmosphere – which happens naturally by trees and plants and through technology such as carbon capture and storage.

Passivhaus Standard

An international standard for energy efficiency in building construction which significantly reduces a building's ecological footprint. This is achieved through good insulation, airtightness, passive solar gains and internal heat sources. Buildings built to the Passivhaus standard require little energy for heating or cooling.

Public Rights of Way

Paths on which the public have a legally protected right to pass and re-pass.

Retrofit

Making upgrades to an existing house (like new windows or insulation) which improves its energy efficiency.

Renewable Energy

Energy from sources that are naturally replenishing but flow-limited; renewable resources are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Examples include Solar, Wind, Hydroelectric, Geothermal and Tidal.

Resilience

The ability to anticipate, prepare for, respond to and withstand hazardous events, trends or disturbances resulting from climate change.

Solar PV

Technology that can turn solar energy from the sun into electricity.

S106 Agreement

A mechanism which makes a development proposal acceptable in planning terms that would not otherwise be acceptable. They are focused on site-specific mitigation of the impact of development.

Travel Mode

The means by which travel is done. Common travel modes for people include passenger car (driving alone or shared ride), public transit (bus, tram or train), walking, and bicycling. Common travel modes for freight include land (road, rail, and pipelines), maritime, and air transportation.

Ventilation

The process of supplying outdoor air to or removing indoor air from a building by natural or mechanical means. Controlled ventilation is necessary to maintain the health of a building and prevent damp and mould.

Walkability

The overall walking conditions in an area; how friendly an area is to walking.

Walkability is affected by the presence and quality of walkways as well as the surrounding environment, including the design of buildings and their location relative to the pavement, as well as vegetation such as landscaping and street trees.

Good destination accessibility and good connectivity contribute to walkability.

Resources

We've put together a set of useful resources to provide information on the energy themes we explored during the workshop.

Carbon Coop Oldham Energy Futures Project Website:

https://oldhamenergyfutures.carbon.coop/

Carbon Co-op Webinar Programme:

https://carbon.coop/carbon-co-op-webinar-programme/

Energy Efficiency in the Home Resources

Centre for Sustainable Energy Advice Leaflets:

https://www.cse.org.uk/resources/category:advice-leaflets

Centre for Sustainable Energy Advice Leaflets in other languages:

https://www.cse.org.uk/advice-leaflets-in-other-languages

Centre for Sustainable Energy Advice, useful videos:

https://www.youtube.com/user/csebristol

Introduction to the Energy System & Energy Efficiency in the Home:

https://oldhamenergyfutures.carbon.coop/learning-best-practice/

People Powered Retrofit paper from Carbon Coop:

https://cc-site-media.s3.amazonaws.com/uploads/2019/01/PPR-Report-June-2019.pdf

Sustainable Travel Resources

Sustrans website - a charity dedicated to making it easier to walk and cycle in the UK:

https://www.sustrans.org.uk

Ramblers 10 steps to developing walkable neighbourhoods:

http://www.ramblers.org.uk/news/blogs/2019/february/walkable-neighbourhoods.aspx

School Streets Initiative with information on how to develop a school street:

http://www.schoolstreets.org.uk

Community Energyå & Local Renewables Resources

To learn more about community energy or start your own initiative:

https://communityenergyengland.org

Community Energy project funding:

https://communityenergyengland.org/pages/funding-opportunities-2

Join Us!

Do you want to get involved?

Get in touch by email:

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Or go on the Oldham Energy Futures website and get in touch on there to find out more about the project and how to get involved in Westwood Energy Futures:

https://oldhamenergyfutures.carbon.coop/contact/