



Innovate
UK

POLICY INSIGHTS

The Missing Link

Understanding community capacity
to build climate-resilient places

MARCH 2026

About Net Zero Living

Innovate UK's £60 million Net Zero Living Programme is helping local authorities and businesses work together to deliver new solutions that improve local services and open markets for economic growth.

Places across the UK are seizing the opportunities that come with decarbonisation to create warmer homes, cheaper local energy, new skills, and more secure work for their communities. But often, while the technology is available, places face barriers in areas such as resources, investment, planning and buy-in.

The 52 local authorities taking part in the Programme have generated a wealth of experience on overcoming systemic barriers to net zero solutions.

This policy insight focuses on the need to understand community capacity (the organisations, stakeholders and networks that exist at the hyperlocal level) to help deliver more equitable climate and net zero action.

This report was written by [Regen](#), which provides expert support on policy and regulation to the Net Zero Living Programme. Regen also coordinates a local energy and infrastructure policy working group for participants in the Programme, recognising the significance of local plans and the planning system for achieving net zero and aiming to support discussions and provide guidance for engaging in this area.

About Regen

Regen provides independent, evidence-led insight and advice in support of our mission to transform the UK's energy system for a net zero future. We focus on analysing the systemic challenges of decarbonising power, heat and transport. We know that a transformation of this scale will require engaging the whole of society in a just transition.

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Executive summary

This insights report highlights the critical value of understanding community capacity for delivering fair and just climate and net zero action at the local level. It sets out a new methodology for identifying community capacity that local authorities can leverage to build inclusive partnerships and support.

Research shows that climate impacts are not felt equally: low-income households, elderly people, those with disabilities or health conditions and minority ethnic communities are disproportionately exposed to climate risks on the one hand, and more likely to be excluded from the net zero transition on the other. While local authorities are at the forefront of responding to the accelerating impacts of climate change, they face mounting pressures from extreme weather events, tight budgets and increasing demands on statutory services.

Existing tools can help identify risks and inequalities as part of wider planning functions. However, what is missing is a systematic understanding of community capacity: the networks, organisations and voluntary groups embedded locally and trusted by citizens. These groups are crucial in reaching at-risk communities, shaping resilient strategies and supporting more equitable net zero delivery.

To address this gap, Regen and the Carbon Trust developed a new methodology, outlined in this report, that integrates community capacity analysis into climate risk assessments. Piloted with Derry & Strabane, Warrington and Southampton councils, the approach combines climate risk data, socioeconomic vulnerability mapping and comprehensive identification of local community organisations. This methodology enables councils to:

- Identify areas where high climate risk overlaps with low community capacity ('hotspots') requiring urgent support
- Build on existing strong networks to accelerate climate action and resilience
- Highlight gaps in provision to inform funding, partnerships and policies
- Enhance delivery across wider local authority functions, including spatial planning and health and social care.

This report includes a 'how to' guide for local authorities wanting to apply this community capacity methodology to enhance their risk and resilience planning. By doing this, local authorities can move from reactive crisis management to proactive, collaborative approaches that protect resources, unlock co-benefits and ensure a more just net zero transition overall. By recognising and investing in the hidden

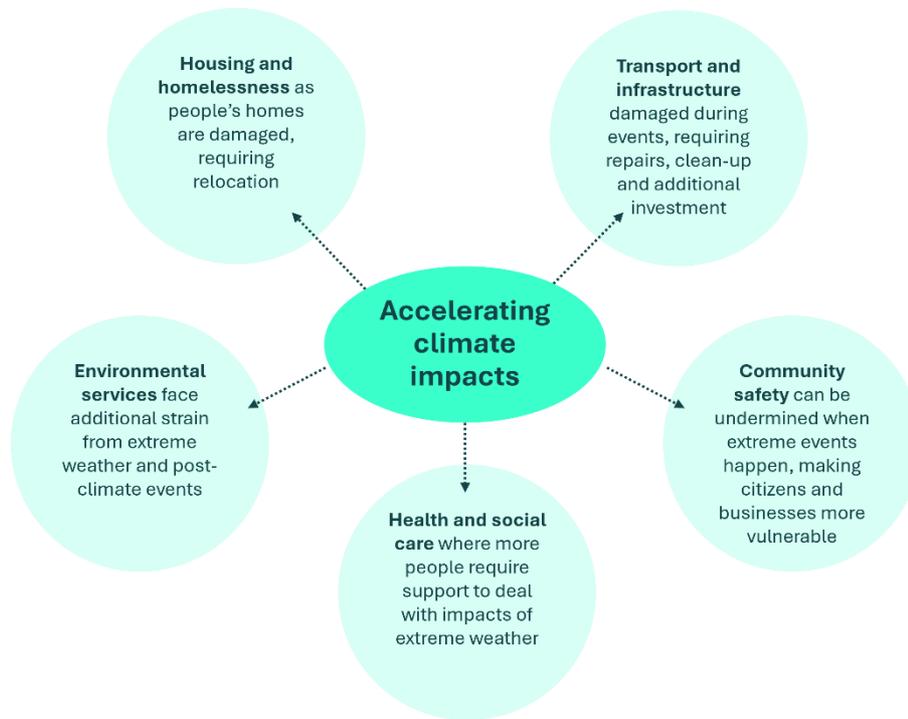
strength of community capacity, we can accelerate the transition to net zero and help to ensure no community is left behind.

Climate impacts are accelerating

Local authorities are at the frontline of tackling the climate crisis. Over 80% of UK local authorities have declared a climate emergency, taking action to simultaneously decarbonise their local areas while adapting and building resilience in their communities against the accelerating impacts of a changing climate. In recent years, many have been heavily impacted by extreme weather events, such as flooding, storms and heatwaves, causing extensive damage to local infrastructure and businesses, and harm to citizens.

The UK government's [Third National Adaptation Plan](#) sets a clear role for local authorities in combating the climate crisis at the local level, particularly in communicating to local stakeholders, businesses and residents the risks and opportunities of a changing climate. Although net zero and climate action are not explicit statutory functions of local authorities in the UK, climate impacts affect a range of statutory areas. These include environmental services (including water and waste management, flood risk management and biodiversity initiatives), infrastructure and transport (which are often adversely affected by extreme weather), community safety, housing and homelessness, planning and public health.

Figure 1. Impact of climate change on core local authority duties.



When adverse climate events happen, funding and support can be siphoned away from other functions to fund infrastructure repairs and outreach to affected citizens. UK councils collectively spend £566 million annually dealing with flood events alone. Recognising the wider £27 billion funding gap that local authorities face, budgets may become more stretched as the frequency of climate events increases. With these budget challenges and increasing frequency of extreme weather events, local authorities may struggle to balance investment in climate resilience and adaptation (e.g. flood defences, green spaces, emergency response) or mitigation measures (e.g. decarbonising buildings and transport) with delivering their core statutory duties.

Establishing clear and deliverable climate resilience, adaptation and mitigation strategies is thus critical to heading off climate impacts and protecting local authority resources in the long term. Developing and delivering comprehensive strategies today means easing pressure on future generations and resources. Evidence also shows that investment in these areas can deliver immense additional value. The UK Co-Benefits Atlas estimates that taking climate action would result in £160 billion in co-benefits nationally, realised through better health outcomes, air quality improvements and increased physical activity. PwC estimates that more localised climate action and net zero delivery can unlock over £108 billion in savings for households.

Impacts are not felt equally among citizens and communities

While climate impacts will accelerate for everyone, not everyone is equally at risk from the negative effects. Extensive research has shown that low-income communities, people experiencing health challenges, older populations and minority ethnic communities in the UK are disproportionately exposed to flooding, air pollution and extreme heat, as well as the associated social, economic and health challenges. This is due in part to living in poorer-quality homes, nearer to busy roads and industrial sites, in areas prone to flooding and with limited financial or environmental protection (e.g. green space or tree cover).

The people most exposed to climate impacts are also the groups in society who are most at risk of exclusion from the net zero transition. People on low incomes may struggle to afford the up-front costs of low-carbon technologies, such as heat pumps or electric vehicles. Elderly populations and those living with a disability are more likely already to be in fuel poverty and may be less familiar with new technologies or services. Children living in cold, damp homes are more susceptible to asthma, negative mental health symptoms and missed school days. Minority ethnic communities may face language or cultural barriers, along with less understanding of their rights as householders and consumers. Those in the private-rented sector may lack the legal rights to make home upgrades that could help them to decarbonise, or must rely on the goodwill of landlords to make changes (see Table 1).

Table 1. Climate and net zero risk by group (adapted from Regen and Consumer Scotland 2025; Local Climate Adaptation Tool 2025).

Group	Climate risk	Net zero risk
People on low incomes or means-tested benefits	Likely to live nearer pollution and flood hotspots; poorer quality housing; less green space or tree cover; limited resources to upgrade homes for resilience.	Less able to afford costs of low-carbon technologies; higher electricity costs may increase electricity bills.
People with mobility or physical health issues	Harder to reach and evacuate in the case of extreme weather; dependence on medical equipment; health issues may be exacerbated by extreme temperatures.	Potential inability to easily shift their energy demand due to medical equipment; may also increase bills due to high cost of electricity.
People with mental health issues and/or facing social exclusion	Lack of confidence or social support networks making it difficult to reach people during climate events.	Lack of confidence or social support networks may cause disengagement with new technologies or services.

People from minority ethnic communities, particularly for whom English is not a first language	Language or cultural barriers may make it harder to communicate or reach people during events; injustices in housing quality and service provision.	Lack of confidence or trust in engaging with suppliers or new technologies and services; lack of clarity on rights and consumer protections; existing injustices in housing quality and service provision.
Digitally excluded	Harder to communicate with during climate events; may miss early warnings and have limited ability to reach out for support.	Limited access to information and/or to new 'smart' technologies and services.
People of a pensionable age	May be digitally excluded and/or face mobility challenges; at greater risk of health damage from extreme temperatures.	Lack of confidence in engaging with suppliers and/or new technologies and services; often digitally excluded.
People with caring responsibilities	May be difficult to reach during typical working or peak times; may be caring for people with mobility issues, with additional needs due to climate events.	Limited capacity to change or flex energy demand; lack of clarity on rights and consumer protections; capital costs of new technologies may be prohibitive.
People living off-gas grid	More exposed to infrastructure damage (e.g. roads, electricity network outages); may be rural and more difficult to reach in an emergency; flooding and landslides more likely.	Reliance on older heating systems, including non-smart meters, direct electric and oil heating; vulnerability to supply interruptions.

These are critical insights for local authorities to have. As more local authorities establish plans for climate resilience, adaptation and mitigation (including net zero), understanding who is impacted, and how, can ensure that programmes are designed to reach those most at risk of harm or exclusion, cognisant of the additional barriers these groups may face in accessing support or services in times of emergency, or engaging with new initiatives, technologies and services for the net zero transition.

Local authority approaches to climate risk and net zero planning

While more local authorities are delivering climate and net zero plans, this is not currently a statutory function of local authorities in the UK. The UK government has legally binding commitments at the national level to assess and detail action to drive climate adaptation through five-yearly National Adaptation Programmes (NAPs). The UK is currently in the [third NAP](#), running from 2023 to 2028. According to the NAP and [associated Climate Change Committee advice](#), local authorities have a critical

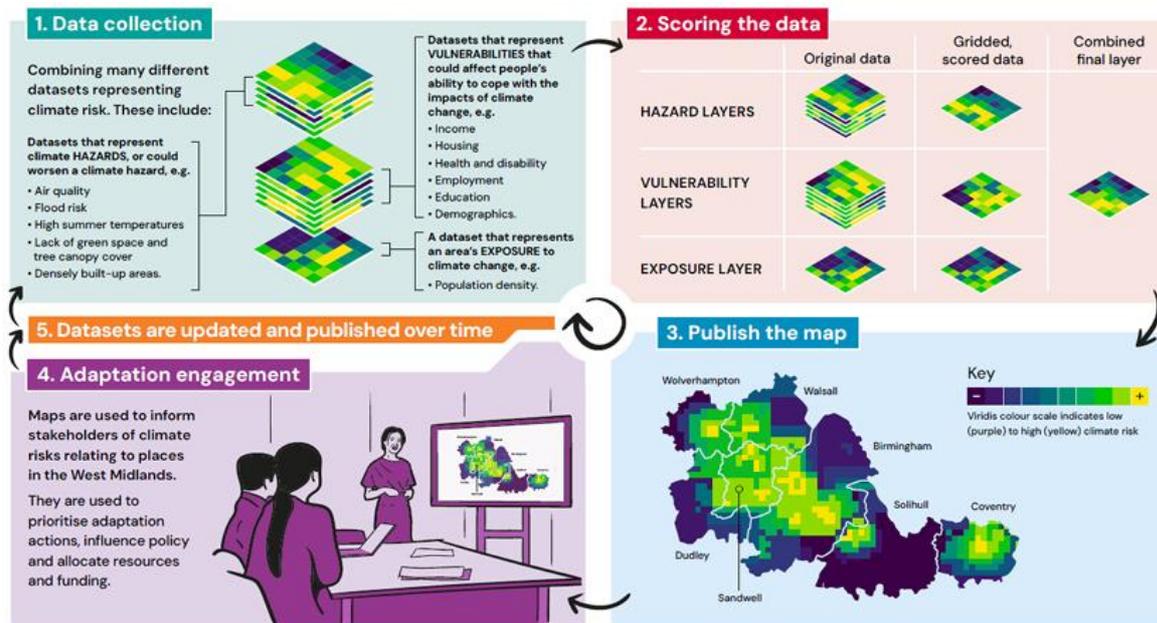
role to play in leadership, engagement and supporting local businesses and communities to adapt to a changing climate.

Despite a lack of statutory powers, local authorities can understand climate risks and impacts within their areas using various tools and methods, including:

- [Local Climate Adaptation Tool](#). Provides data and insights about expected changes to climate per local authority area and which groups may be more at risk on average from accelerating impacts.
- [Met Office Local Authority Climate Service](#). The Met Office, directed by the UK government, has also published an online data portal providing future climate predictions for different local authority areas.
- [Local Partnerships' Climate Adaptation Toolkit](#). Sets out a five-step process and accompanying guidance and materials for assessing climate risk and developing action plans in UK local authorities, bridging the gap between the National Adaptation Plan and local authority action.
- [Climate Risk and Vulnerability Assessments \(CRVAs\)](#). Some local authorities, including West Midlands Combined Authority, Cambridge City Council and Southampton City Council, have commissioned more detailed CRVAs (Figure 2). These assessments spatially map where different climate risks are most likely within a local authority area and overlay this with socioeconomic and demographic data to help understand which types of people are likely to face these risks.

CRVAs and other climate adaptation tools provide comprehensive information on risk and socioeconomic vulnerabilities, enabling local authorities to support businesses and communities to adapt to a changing climate. Equally, net zero-related plans, such as Local Area Energy Plans (LAEPs) or Local Heat and Energy Efficiency Strategies (LHEES) in Scotland, provide a route for local authorities and consultants to engage with stakeholders to set out a pathway for decarbonisation across the local area. Such plans include socioeconomic data (such as the Indices of Multiple Deprivation) to understand the different types of people or communities affected by different decarbonisation pathways.

Figure 2. The cyclical process of developing a CRVA from the West Midlands Combined Authority and the University of Birmingham’s CRVA methodology guidance document.



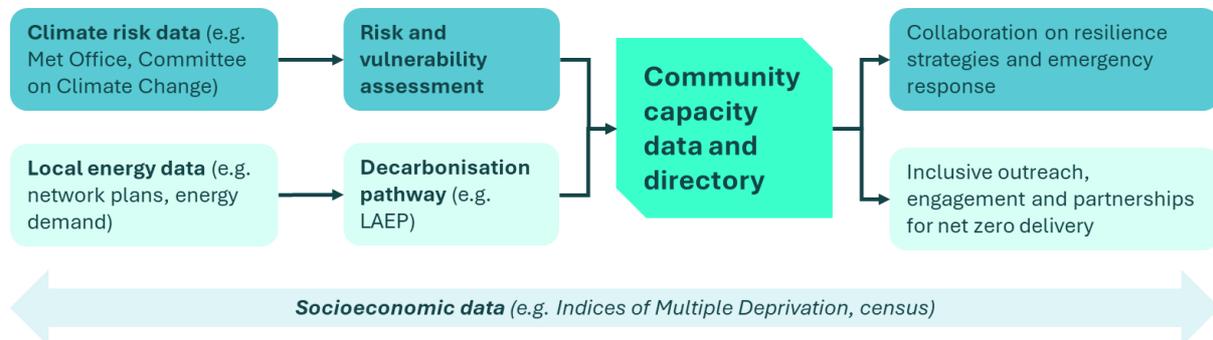
Through these publicly available data sources and established services, local authorities can quickly understand how impacts and risks are likely to develop over time in their areas, helping to inform action planning for resilience, adaptation and mitigation.

Community capacity: the missing link

Community capacity refers to the organisations and networks that exist within communities and can be tapped into, either in times of crisis or more strategically to build partnerships for the delivery of resilience, adaptation and net zero programmes. Such organisations and networks are often key for engaging more vulnerable or disadvantaged communities, as they are trusted and embedded within their communities, making them a critical partner in enabling more equitable net zero and climate action.

However, local authorities can struggle to understand their community’s capacity, which organisations and networks exist, the types of communities they serve and the work they do. Directories can quickly go out of date and are not typically matched up with other climate risk or spatial planning datasets. This makes it challenging for local authorities to build inclusive partnerships which involve and meet the needs of those most likely to be affected by climate impacts and most at risk of exclusion through net zero.

Figure 3. Embedding community capacity for delivery of climate and net zero plans.



Embedding community capacity insights in future iterations of local climate resilience, adaptation and net zero strategies (and, more crucially, delivery of these strategies) can help local authorities to:

- Target and build partnerships with trusted organisations in communities at high risk of climate impacts, helping to shape and deliver climate resilience and adaptation measures
- Establish a comprehensive stakeholder directory to draw on during emergency events and in consultation processes
- Channel investment to organisations to help them support climate and net zero action and ensure no community is left behind through engagement, outreach and hyperlocal services

“We face significant socioeconomic challenges in our communities, with the lowest median annual wage rates in Northern Ireland and over half of our young people living in deprived areas. We understand the importance of resilience and the power of community and have committed to achieving climate resilience by 2045 through a justice-centred, evidence-based approach that integrates community resilience, inclusivity and cross-sector collaboration. This new methodology will be extremely useful to us in the Council and our wider Sustainability and Climate Commission, providing the data to inform our assessment of the resilience of our communities and shape emerging sectoral plans for energy, transport, green infrastructure and housing.”

**Michele Murphy, Climate Action Officer at
Derry City & Strabane District Council**

Understanding community capacity can also be critical to other core local authority functions, such as:

- Spatial planning. With a deeper understanding of community capacity, local authorities can co-create strategic plans and deliver more meaningful engagement with citizens and communities on local priorities and projects.
- Health and social care. Comprehensive knowledge of community-level organisations, mutual aid networks and voluntary groups can help outreach and referral processes, ensuring more people in need receive support and can access critical services.

Understanding community capacity

In partnership with the Carbon Trust and three local authorities taking part in Innovate UK's Net Zero Living Programme (Derry & Strabane, Warrington and Southampton), Regen has developed a methodology that advances CRVAs by incorporating community capacity analysis, allowing local authorities to systematically understand the networks and stakeholders that make up an area. This can help move insights into action, providing a comprehensive directory of stakeholders at the community level, including voluntary, mutual aid, charities, advocacy groups, social enterprises and the third sector, mapped against climate risk and socioeconomic data. From this, local authorities can build partnerships and support more inclusive and targeted engagement for implementing plans and investments in practice. As outlined above, this can also be applied to other core local authority functions.

Local authority databases and online directories of local services, groups, events and volunteering opportunities can be useful datasets to understand community capacity. In this analysis, we used [SO:Linked](#) (Southampton), [Warrington Voluntary Action](#) (Warrington) and [CommunityNI](#) (Derry and Strabane), which contained useful information on community organisations, including name, postcode, the type of work they do and the communities they serve. These were supplemented with known community energy organisations from Community Energy England's national map and specific examples of cost-of-living support listed on local councils' websites, as we found these were lacking from central repositories.

In order to evaluate the role of organisations in supporting local authorities to build climate-resilient communities, we defined three categories of community organisations:

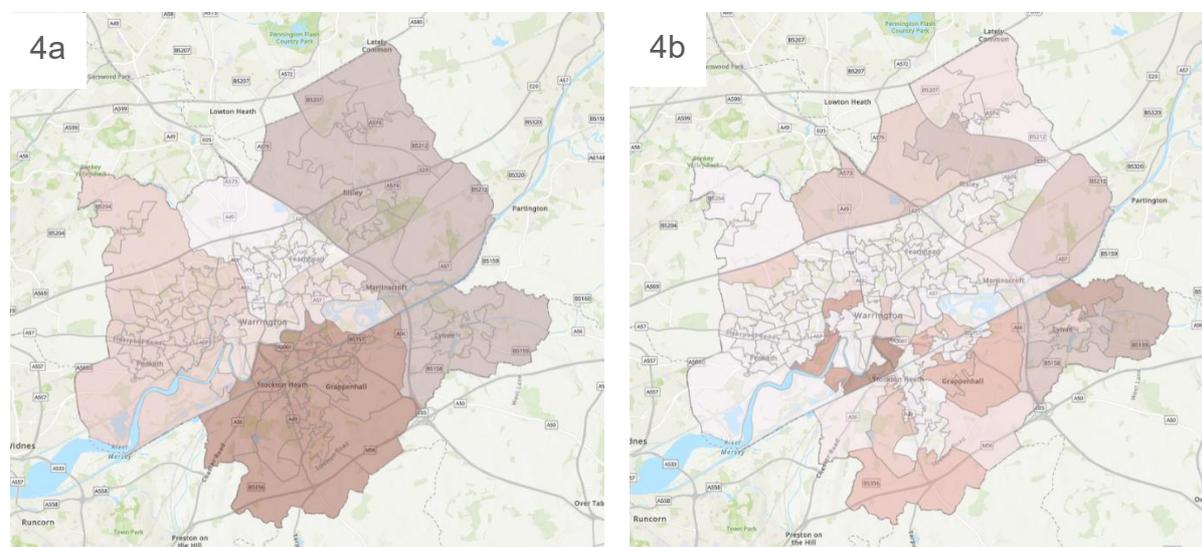
- Tier 1. Established groups or organisations focused on energy or climate-related activities, e.g. energy bill support, fuel poverty support, warm spaces
- Tier 2. Organisations that are not climate/energy specialists but work on adjacent issues, e.g. food banks, community growing facilities, financial support
- Tier 3. Community organisations with no direct relevance to energy and climate, e.g. addiction support groups, care support or informal organisations.

Examples of Tier 1 organisations/services identified included energy advice services, warm hubs at community centres and libraries, repair cafes, community energy organisations and environmental action groups.

There was significant variation in the number of community organisations operating across the three local authority areas, ranging from 178 in Southampton to 389 in Warrington. This trend was also true for the number of Tier 1 organisations working directly on climate-related issues, which ranged from four in Southampton to 59 in Derry & Strabane. This is influenced by the characteristics of each local authority area (e.g. population, urban-rural classification) and also by the quality of the databases and websites used to inform the analysis.

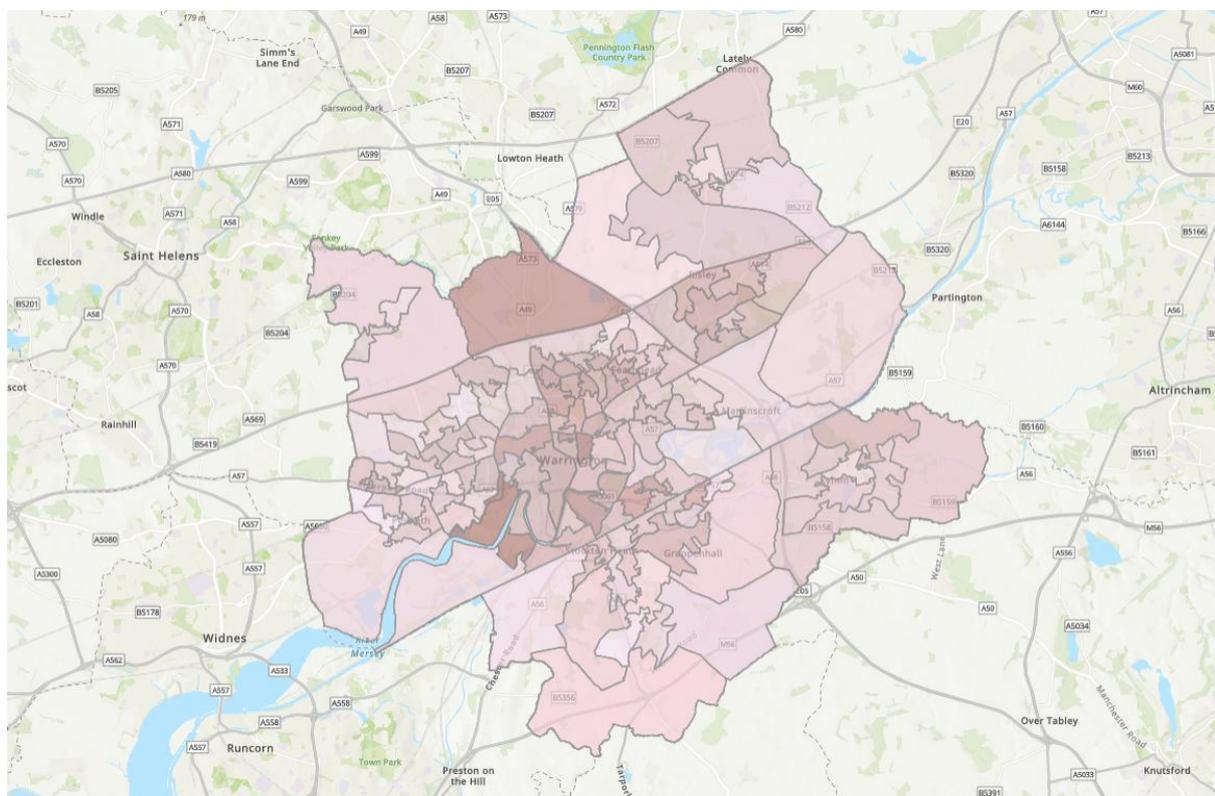
Community-level organisations are more common in urban areas with high levels of deprivation, as shown in Figure 4a. This is primarily owing to a greater need for support in these communities, e.g. fuel poverty advice and food bank charities, and access to high street premises for in-person services. Rural communities, which tend to be more affluent, have fewer community groups serving them, and, in particular, fewer Tier 1 organisations.

Figure 4. Heat map of community organisations in Warrington Borough Council. Darker red areas show areas with fewer community organisations (4a) and with fewer community organisations per capita (4b).



While there are more community-level organisations in urban areas, services are stretched more thinly across rural areas, as seen in Figure 4b. These rural communities are, therefore, exposed to climate risks with less supporting capacity. Some urban areas also struggle with a lack of community-level capacity per person, usually linked to areas of high population density, which magnifies existing socioeconomic vulnerability and exposure to climate risks in these communities, as seen in Figure 5.

Figure 5. Climate risk, socioeconomic vulnerability and community capacity analysis for Warrington Borough Council (dark red areas are most at risk of climate impacts, through a combination of climate risk, socioeconomic vulnerability and inadequate community capacity per capita).



Building climate-resilient communities

By recognising and investing in the hidden strength of community capacity, we can accelerate the transition to net zero and help to ensure no community is left behind. The first step towards that is understanding community capacity at a local level, giving local authorities and national bodies an actionable evidence base that shows:

- Where climate risks and low capacity coincide: ‘hotspots’ that require urgent support and outreach to help increase resilience. For example, inner city areas that struggle with socioeconomic deprivation and exposure to extreme

heat and flooding, and that lack an adequate network of community-level support organisations.

- Where strong networks already exist: opportunities to partner and scale delivery of resilience or net zero programmes. In particular, Tier 1 and Tier 2 organisations may be able to deliver enhanced or additional services to support communities, given adequate support. For example, [Testlands Wellbeing Hub](#) in Southampton is a community anchor organisation dedicated to empowering and rejuvenating local young people through sports and holistic wellbeing initiatives. The hub was able to pivot to providing home energy guidance, face-to-face advice on reducing household bills, and training for frontline workers to identify and support individuals in fuel poverty, primarily thanks to funding from the South West Net Zero Hub.
- Where gaps in provision may leave communities exposed: informing funding bids, policy interventions, targeted engagement methods to reach at-risk citizens or partnership development. This methodology can also be refined and applied to a number of local authority roles. For example, in identifying community-level partners to engage in the planning process beyond well-known organisations, or improving the referrals process for essential support services (e.g. housing, homelessness and social care).

Looking ahead

By integrating community capacity into climate risk and vulnerability assessments, we can move beyond maps of exposure and socioeconomic indicators to a far richer understanding of how prepared, or unprepared, communities are for the changing climate at the local level. This shifts resilience planning from reactive to proactive and from top-down to something more collaborative.

With Great British Energy's commitment to develop up to 8 GW of local renewable energy projects, including shared ownership and community energy projects, there is likely to be an increase in the number of Tier 1 organisations working in community energy for local authorities to engage with and understand.

Community capacity analysis can open up new opportunities, guiding social value investment, expanding opportunities for community ownership of renewable energy, and shaping the local energy markets of the future. It can also inform crucial local authority statutory duties and services, building a comprehensive directory of stakeholders to build partnerships to improve service referrals (e.g. health, social care, housing and homelessness), identify funding and local business needs, and establish more resilient communities overall.

The challenge is urgent, but the opportunity is clear. By recognising and investing in the hidden strength of community capacity, we can accelerate the transition to net zero and help to ensure no community is left behind.

“Regen’s climate justice analysis, developed through the Net Zero Living Programme, will be a valuable resource for shaping our future initiatives. It will inform the development of the Green City Plan and support targeted projects addressing climate risk and vulnerability, such as the co-produced Beat the Heat programme. This work will play a key role in helping us build climate-resilient communities.”

Melanie Robertson, Sustainable Projects Officer at Southampton City Council

Appendix: ‘How to’ guide for local authorities

Climate risk and socioeconomic vulnerability

Building on the concept of a CRVA, we conducted analysis of key climate risk and socioeconomic variables. This was conducted at the Lower Super Output Area (LSOA) level (this is equivalent to Data Zones (DZ) in Scotland and Super Data Zones (SDZ) for Northern Ireland). These small geographic areas were introduced by the Office for National Statistics specifically for the Census analysis, designed to contain a consistent population size in each area, typically around 1,500 residents. These geographic areas are used across many datasets, including the Indices of Multiple Deprivation, health, housing and education statistics, and the Census.

We used key socioeconomic and climate risk variables in line with West Midlands Combined Authority’s [open-source CRVA methodology](#), developed in partnership with the University of Birmingham. This included:

- NO₂ and particulate (PM_{2.5} and PM₁₀) concentration
- Tree canopy cover deficit
- Surface temperature (summer daily max)
- Flood risk (pluvial and fluvial)
- Population density
- Indices of Multiple Deprivation
- Census household deprivation
- Population of ethnic minority
- Population whose main language is not English.

Steps for local authorities: An existing Climate Risk and Vulnerability Assessment would expedite this analysis. Alternatively, local authorities can follow West Midlands Combined Authority’s open-source CRVA methodology. This would require data analysis and GIS expertise.

Community capacity analysis

We developed tailored web-scraping tools for each online directory: [SO:Linked](#) (Southampton), [Warrington Voluntary Action](#) (Warrington) and [CommunityNI](#) (Derry and Strabane). These tools extracted key information on organisation name, postcode and description. We supplemented this information with other online databases, such as known community energy organisations from Community Energy England’s national map and specific examples of cost-of-living support listed on local councils’ websites, as we found these were lacking from central repositories.

Steps for local authorities: An existing database of community-level organisations would expedite this analysis. Alternatively, local authorities can reach out to organisations operating online directories and request a version of the database. This extract needs to include the organisation name, postcode and a description of its activities. Developing a web-scraping tool, as was done in this analysis, would require coding expertise.

Using our definitions of Tier 1, Tier 2 and Tier 3 organisations, we compiled a list of keywords that would be present in a description of that organisation and used this to categorise them, as shown in Table 2. These were tested through validation on the three online directories. Tier 3 organisations were categorised by exemption from the keyword search, i.e. any community organisation that did not include the keywords defining Tier 1 and Tier 2 organisations.

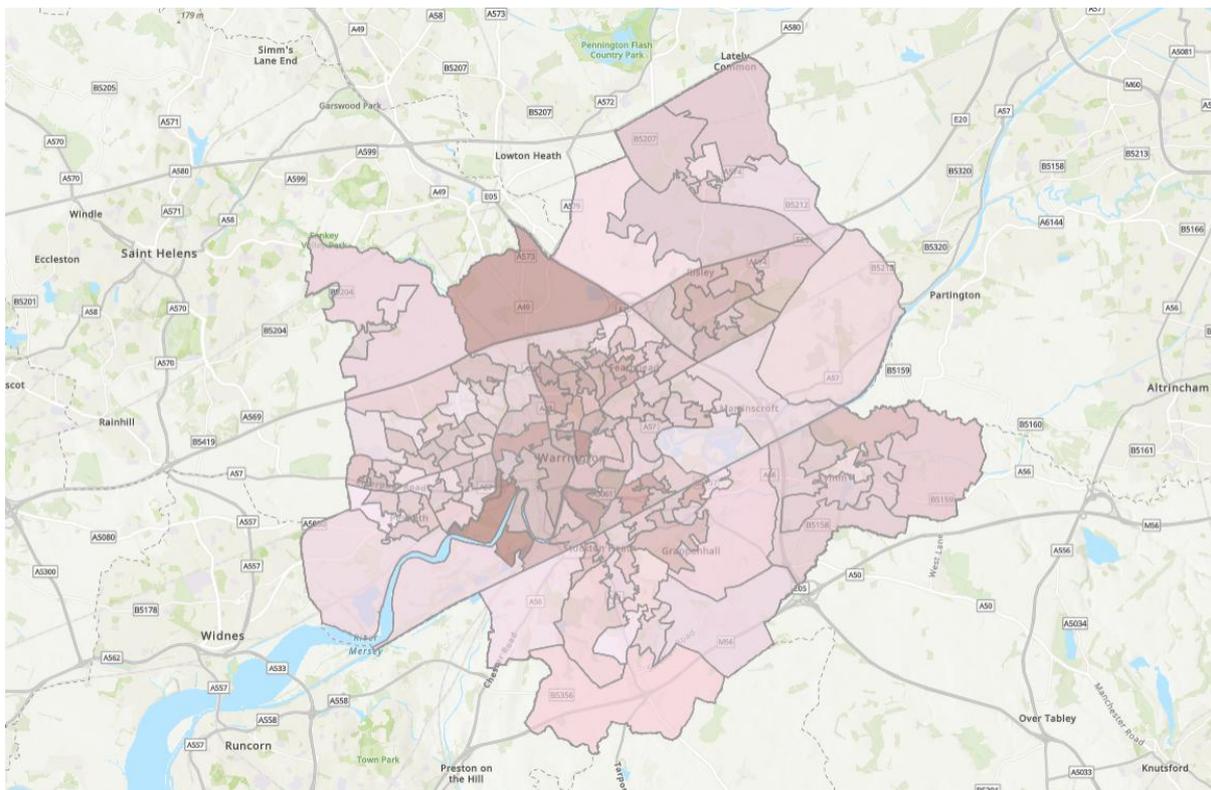
Table 2. Keywords used to identify and categorise community organisations.

Tier 1	Tier 2
Climate	Hub
Environment	Garden
Energy	Nature
Bills	Farm
Warm	Green
Flooding	Community
Heat	Wellbeing
Warm homes	Food
Cost of living	Café
Energy bills	Church
Fuel poor	Money
Fuel poverty	Financial
Recycling	CIC
	Lunch
	Library
	Resilient
	Resilience
	Libraries
	Homeless

Steps for local authorities: Using the keyword definitions above, local authorities can categorise the directory of community organisations and calculate the number of each tier of organisation operating in each postcode area. These postcode areas can then be mapped to LSOA/DZ/SDZ level to align with the climate risk and vulnerability analysis. The number of community organisations should then be scaled based on the population of each area.

We mapped the climate risk and vulnerability analysis as a heat map, with darker red areas being more ‘at risk’. We then overlaid the per-capita community capacity analysis as a heat map, with darker red areas having fewer community organisations per person. The resulting map can be seen in Figure 6.

Figure 6. Climate risk, socioeconomic vulnerability and community capacity analysis for Warrington Borough Council (dark red areas are most at risk of climate impacts, through a combination of climate risk, socioeconomic vulnerability and inadequate community capacity per capita).



Steps for local authorities: Local authorities can map the CRVA and per-capita community capacity analysis as a heat map to identify ‘hotspots’ of climate risk, socioeconomic vulnerability and inadequate community capacity. This requires GIS expertise. Alternatively, this assessment can be done in Excel by applying RAG conditional formatting or assigning a numerical value to each variable and then comparing variables across an LSOA/DZ/SDZ.