

Heat networking zoning

About Regen

Regen is a not-for-profit centre of energy expertise and a leading strategist on the pathway to a zero carbon energy system, focused on analysing the systemic challenges of decarbonising heat, power and transport. We know that a transformation of this scale will require engaging the whole of society in a just transition. We have 20 years’ worth of experience in transforming the energy system and delivering expert advice and market insight.

Regen is also a membership organisation, managing the Regen members network and the Electricity Storage Network (ESN) – the voice of the UK storage industry. We have over 150 members who share our mission, including local authorities, community energy organisations, businesses, clean energy developers, academic institutions and research organisations across the energy sector.

This response is based on Regen’s extensive work with the clean heat sector, energy networks and local government on heat decarbonisation projects and local strategies. Some examples of this include:

“A day in the life of 2035”

A study with National Grid ESO of how the decarbonised electricity system could operate, through the lens of its most challenging winter and summer days.

The Local Delivery of Clean Heat

A study funded by the European Climate Foundation that explores the role of local authorities and the importance of a national-local partnerships.

Work supporting Welsh Government, including development of its Heat Strategy, Renewable Energy Targets and Energy Generation and Demand reports.

Supporting local projects, including Bristol City Leap and heat network, Plymouth waterfront project and heat networks for Plymouth City Council and Greater Manchester Local Energy Market.

We pioneered and continue to support the Distribution Future Energy Scenarios process, an analysis-based methodology that directly supports the electricity networks with long-term strategy and network planning processes at a localised level.

Rethinking Heat

A study on network impacts of a street-by-street approach to ground source heat pumps.

Summary

Heat networks will play a vital role in net zero, transitioning non-domestic and domestic customers from carbon-intensive heating to low-carbon heating sources.

We agree that heat network zoning will be a crucial framework to enable the economies of scale required to meet government's ambitious heat network deployment targets. The zoning methodology laid out can also work to align key actors including networks, local authorities and community organisations on defined decarbonisation pathways and reduce the burden on overstretched local authorities.

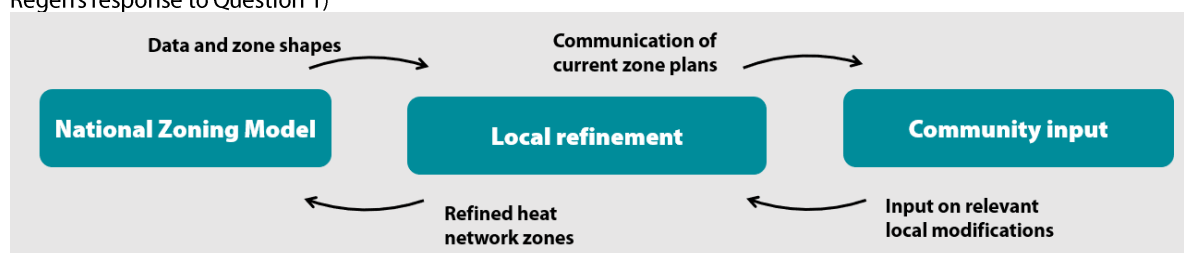
To support this consultation response we have spoken to Bristol City Council, Plymouth City Council and Bournemouth, Christchurch and Poole Council, as well as Bristol Energy Network, a community energy organisation. All groups were broadly supportive of the zoning approach. We have responded to 18 questions, overleaf, where we have evidence to contribute. Across these questions, we have identified two key improvements to the heat network zoning methodology, which should be considered.

1. Stronger community engagement

We agree that the Central Authority is best placed to carry out the work required in the National Zoning Model and that the Zone Coordinators are well placed to carry out the refinement of the zones. However, there is a need to ensure that significant time and resources are allocated to engaging and collaborating with communities both within and on the peripheries of the designated zones. We recommend a clearer role for community engagement in the refinement stage and a greater emphasis on 'bottom-up' input. Stronger engagement could play two clear roles:

- Creating more trust and awareness around the zoning process. Without appropriate care, there's a risk that fewer building owners will be prepared to connect and communities might respond negatively to changes in their heating system or to the disruption caused by network construction.
- Allowing for applications from enthusiastic communities on the peripheries of the zone who would like to make a case to connect to the heat network, to extend the zone or to define their own smaller zones.

Figure 1: High level zoning process in which communities have the opportunity to be included (more detail provided in Regen's response to Question 1)



2. Integration with wider decarbonisation plans

There is currently no consistent framework under which decarbonisation goals are translated into local action. Appropriate steps should be taken to coordinate this zoning approach with these other major changes in order to avoid replication of data collection or the overlapping of policy.

Methodologies and processes established from this consultation should intersect and complement other local area plans and frameworks that already exist or are in development, such as Local Plans, Local Area Energy Plans (LAEPs), the establishment of the Regional Energy Strategic Planners (RESP) and other changes such as those to building regulations or the Energy Company Obligation (ECO) scheme.

Responses to questions

Q1: Central authority responsibilities

Do you agree with the roles and responsibilities set out for the Central Authority? If not, please set out a) which ones you disagree with and why, and/or b) additional duties you expect them to perform and why.

Yes, we broadly agree. However, we would recommend including additional duties namely:

- Ensuring the zoning methodology laid out is coordinated with other national and local net zero initiatives.
- Extending the data analysis to identify regions for other heat decarbonisation action.

We support the responsibilities set out for the Central Authority, emphasizing centralised data analysis for efficiency, fairness, consistency and consensus building. It's crucial for the authority to coordinate with other national net zero initiatives and frameworks to prevent inefficiencies and siloed efforts. There is a risk that data analysis will be repeated with the various climate action plans, LAEPs and decarbonisation pathways that different local authorities are following. Our [research, funded by Innovate UK, demonstrates there is a desire for a centralised methodology](#); "There is strong stakeholder agreement, backed by evidence, that a core data and assumptions service for local authorities would improve the quality and efficiency of local decarbonisation planning".

The Central Authority should also ensure data is open and accessible to community organisations and interested grassroots groups. This would ensure that the analysis done not only benefits large developers, but also the communities affected by the developments. The zoning digital service should make the collected data publicly accessible via an online platform similar to the [London Heat Map](#).

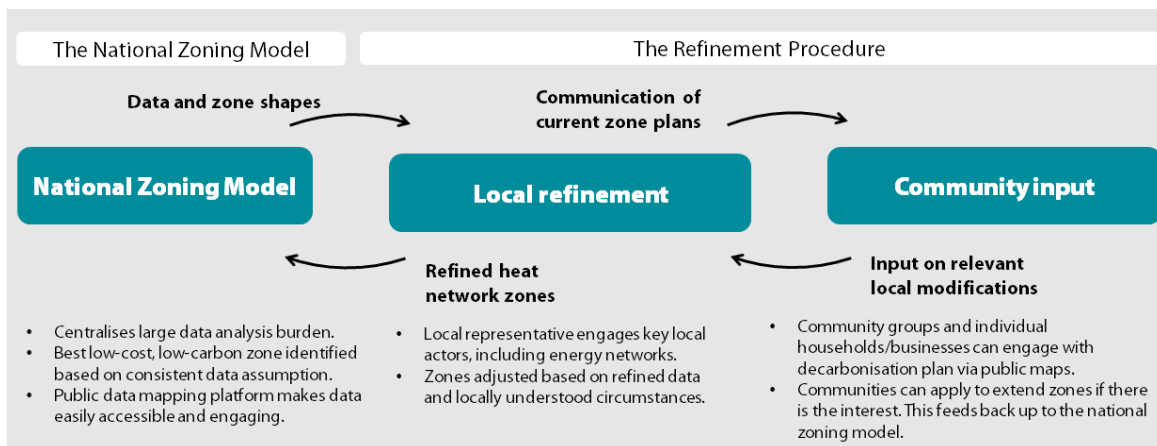
Allowing community organisations to see where the areas of high heat demand are, and where the potential heat network might go, would support other grassroots action, e.g. supporting the feasibility stage of fabric efficiency projects and community-owned heat networks or suggesting adjustments to the zone area, which are not currently included in the zoning methodology. See [our response to Question 3](#) for more.

The Central Authority should also make sure that the obligations and responsibilities set out in this methodology don't conflict with the responsibilities of new bodies being formed such as the RESP or with obligations set out by changes to building regulations and the ECO.

Finally, there would remain a risk that the heat network zoning approach disproportionately advantages urban areas within a region, leaving others with less guidance and support through the transition ([Heat network zoning consultation response](#), Community Energy England). The Central Authority could consider extending the data analysis to identify opportunities for other strategic heat interventions. These would not require zoning with associated policies, but would help ensure that more households and regions benefit from the analysis already being done ([The local delivery of clean heat](#), Regen). Other strategic heat projects could also then be fed back into the national model.

An example of how this wider heat analysis could be done can be seen in heat mapping plans in Belgium where heat demand is assessed and published on a street-by-street level ([Heating in Flanders](#), Vlaams Energie- & Klimaagentschap) and the Netherlands, where municipalities are required to assess the suitability of low carbon technologies for given catchments. This approach in the Netherlands has already been referenced in previous heat network zoning consultations ([Heat Network Zoning](#), Department of Business, Energy and Industrial Strategy), but is highlighted as the data that the Central Authority processes could help guide the deployment of low carbon heat technologies outside of heat networks, particularly in areas that don't have a LAEP.

Figure 2: A zoning process in which communities have the opportunity to be included



Q2: Do you agree with the housing of the Central Authority within the Department for Energy Security and Net Zero, for the initial period?

Yes.

Q3: Zone Coordinator responsibilities

Do you agree with the roles and responsibilities set out for the Zone Coordinator? If not, please set out a) which ones you disagree with and why, and/or b) any additional duties you expect them to perform and why

Yes, we broadly agree. However, we would recommend including additional duties, namely:

- Carrying out more extensive community engagement in the refinement stage.

We agree that checking data and assisting with the refinement of the zone at a local level is an appropriate role for the Zone Coordinator, but the consultation and community engagement aspect of this refinement stage needs to be prioritised. The zoning process must be data and evidence driven, but national datasets have their limitations and therefore any desk-based national analysis can only go so far. In the case of assessing heat demand, it’s not possible to track many of the factors that are of influence ([Energy Demand for Heating, ClimateXchange](#)).

Again, it should be ensured that the work being carried out by the Zone Coordinator is integrated with work being carried out by local authorities on other local area energy or decarbonisation plans.

To ensure that the solutions identified are the ones desired and of most benefit to the relevant households and businesses, zoning needs to be a collaborative process. This means ensuring that community organisations can actively contribute to the process and help fill in gaps where a more top-down, data-driven approach might miss nuances.

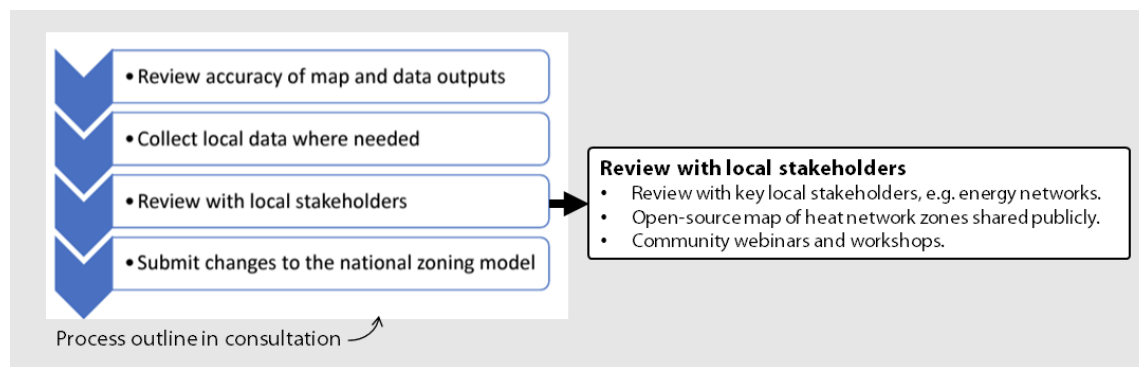
One way to achieve this would be to place more emphasis on the ‘review with local stakeholders’ phase of the zone refinement. The methodology in the consultation details that the Zone Coordinator “may use this stage to review the outputs of the model”. We would like to recommend that greater engagement with the local community is explicitly required at this stage, particularly with non-statutory consultees such as community energy organisations, a stance also supported by Bristol Energy Network. Examples of community groups with the heat decarbonisation experience to contribute are plenty, including [Chipping Community Energy](#) and [Rossendale Valley Energy](#).

Engagement with affected local communities and building owners that might be required to connect should be carried out to build awareness and trust. This could include public meetings and workshops to introduce what the zone is and what it might mean for residents and businesses in the area, an online platform that houses a map of the zone and opportunities to engage with the zoning process and information webinars to keep local residents and community groups informed as to how they can feed into the planning process ([Community Heat Guide](#), National Grid). We would also recommend considering a mechanism by which to allow for applications from enthusiastic communities on the peripheries of the zone who would like to make a case to connect to the heat network or to extend the zone. This could also allow for communities to propose smaller zones outside of the identified shape. Both Bristol Energy Network and Bristol City Council endorsed the importance of community feedback on the zone shape and also of more general engagement in the zone to boost voluntary connections.

Mandating a higher level of community engagement and collaboration will help work towards consistency of public support across each of the heat network zones nationally and will help ensure they are appropriately tailored to the individualities of each of the areas in question.

To ensure that these roles can be carried out appropriately, it is absolutely vital to ensure that the Zone Coordinator is properly resourced. All three local authorities engaged with highlighted this as a crucial aspect to ensuring heat network zoning works.

Figure 3 : An example of how the “review with local stakeholders” stage could be expanded and clarified to include greater community engagement



Q4: Do you agree with the suggested approach for designating Zone Coordinators?

Yes.

Q5: Do you agree with the proposed list of Fitness to Operate Assessment criteria set out in Table 1? If not, please explain why.

Yes.

Q9: Do you agree that new buildings within a zone should be required to be “heat network ready” if they cannot connect immediately on completion of construction?

Yes.

Q10: Do you agree that all existing buildings with communal heating systems should be within the scope of requirement to connect?

Yes.

We agree that existing buildings with communal heating systems should be within the scope. However, concern was raised by both Plymouth City Council and Bristol City Council that not enough large buildings might be encouraged to connect under this approach and key loads, such as some social housing, might not fall under this definition. We are supportive of clear incentives for large buildings without communal heating systems to connect, for a social tariff to incentivise the connection of social housing and ensuring that connecting won't adversely impact the residents and exacerbate fuel poverty.

Q19: Do you agree with the proposed mechanism for activating the requirement to connect? If not, please provide alternative suggestions.

Yes.

A greater emphasis on early and frequent engagement would help ensure that building owners and building developers aren't put off by the requirement to connect and ensure that they are aware of the notice to connect in advance. See the methods suggested in [Question 3](#) as to how to carry out this engagement.

There is also a potential role for community energy or other local organisations to act as a trusted intermediary with engagement in areas where the heat network is being built out to help build positivity and momentum more generally in the community that will be disrupted by the construction work for the heat network. Even if people aren't in a building that will connect to the heat network, the process of constructing the network is a good opportunity to raise general awareness around heat decarbonisation and get residents thinking about alternative low-carbon options.

Q27: Do you agree that the agreement phase is an appropriate time for building owners to apply for exemptions?

Yes.

When processing an exemption it should be ensured that there is active engagement with the building owner around other potential low-carbon solutions that might be suitable for them.

There is also a need for the exemptions thresholds to be very clearly set out from the start of the zone designation process, otherwise the Zone Coordinator might suffer from a considerable administrative burden simply trying to process exemptions, impacting their efficiency in their other roles. This administrative burden was noted as a big risk by all three local authorities engaged as part of this consultation response.

Q37: Do you agree that the Zone Coordinator should be responsible for heat source investigation and preparation of a heat source report?

Yes.

When investigating potential heat sources, the Zone Coordinator should remain open to the prospect of community energy organisations providing heat sources, either from waste heat from community sites or community-owned renewable heat. These instances might be rare, but allowing for active participation in a heat network could help boost public perception of the zoning process.

Q39: Should owners of heat sources be able to appeal a decision requiring them to connect to a heat network or give access to a heat source?

Yes.

Q48: Should the zone refinement stage allow more general refinements? Please provide any specific examples of other factors which could be considered.

Yes.

As detailed above, a stronger element of community feedback should be allowed for within the refinement stage. It is also key that these refinements are allowed to be iterative; people often don't know what they want until they've seen more of it, so there needs to be room to account for multiple stages of refinement.

There needs to be a mechanism through which communities themselves can put forward prospective areas for heat network zoning and methods to assess the suitability of these areas. This could prove particularly important in terms of identifying more rural heat network zones.

The zone refinement stage should also stay open to potential information and changes that might come through existing local area plans and help coordinate and integrate with these. Frameworks such as LAEPs and bodies such as the RESP should feed into the zoning process and support the Zone Coordinator, particularly at first when there may be experience and skill gaps within the Zone Coordinator role ([Why zoning coordinators should be collaborators](#), Energy UK).

It should be noted that efficiency is still an essential part of this process. There have been fears among some parties as to the unwanted bureaucracy that heat network zoning will bring ([Heat network zoning consultation response](#), Community Energy England). The refinement stage should have clear timelines defining each of its stages and have a clear focus on using the knowledge base of the local authorities, developers and communities already available as opposed to focusing extensively on data validation.

Q53: Do you agree that the central authority should review the zoning methodology every five years? If not, please provide alternative suggestions.

No. This needs to be more regular.

Committing to a format in the early stages of establishing the zoning methodology that may not work for the relevant parties presents a risk. There is a lack of clarity on how this methodology will work in conjunction with other local energy decarbonisation plans, such as Local Plans or LAEPs, and there's a risk of cross-plan confusion and replication. Committing to a single methodology for the next five years risks locking the Central Authority and Zone Coordinators into a way of working up until the end of this decade, at which point significant decarbonisation progress will have needed to have been made. For at least the first few years of the process, it's important that the methodology is reviewed regularly and the Central Authority pursues an agile and iterative approach.

An example of how this could work in order to avoid unnecessary bureaucracy and the need to be constantly consulting would be to conduct yearly informal internal reviews on the methodology and assess any areas of it that might not be operating as desired. These areas for change could then be collated and consulted upon every two years up until 2030 to ensure that a steady dialogue is maintained with the relevant parties. We see the majority of the potential revisions focusing on the refinement stage.

It is possible to carry out extensive, nationwide analysis annually; Regen has been leading the [Distribution Future Energy Scenarios](#) (DFES) approach for several years for both Scottish and Southern Electricity Networks and National Grid Electricity Distribution, in a process that has gained value and efficiency with time.

Q54: What factors should the Central Authority consider when review the zoning methodology?

One of the key factors that the Central Authority should look at when reviewing the zoning methodology is whether the data being provided to the Zone Coordinator, the relevant developers, local authorities and communities is meeting the standards required. This could mean assessing how the data is being used by the relevant bodies and areas where more data needs to be collected.

A core part of the review process should also be to check whether zone coordinators are operating effectively, given that there is high potential for the make-up of the Zone Coordinator role to vary between regions, depending which level of local authority they sit at. An aspect of this would be to review how efficiently certain roles, such as processing exemptions, are being carried out and whether requirements need to change.

It's also important to continually assess whether some areas are being neglected or overlooked in the zoning process. This approach runs the risk of creating favourable policy in some areas and leaving others lagging behind, if there is not sufficient support to supplement. Some of the areas at-risk of being overlooked by this approach include heavily residential areas and rural areas.

Finally, as mentioned throughout these answers, it's crucial to continually assess how the methodology outlined here is operating alongside the many other regulatory and policy changes and plans being laid out. This goes hand-in-hand with assessing whether other areas are being neglected and need to be accounted for and better supported by other local decarbonisation plans.

Q57: Which of the following platforms should host the formal consultation: a) the zoning digital service, b) local authority or Zone Coordinator websites, c) other (please specify).

The zone designation consultation should be hosted on the relevant local authority's website, with promotion also supported by local and community organisations.

We believe that, in general, it's important that public facing engagement about heat network zoning in an area comes through the local authority, or at least have local authority branding, with support from capable local or community organisations. The Zone Coordinator is unlikely to have the same level of trust within local communities as these groups.

Q59. Do you agree with the proposed two-tier approach to classify statutory consultees? If not, please describe an alternative approach.

Yes.

We agree that the proposed two-tier approach to classifying statutory consultees is appropriate. The first tier consultees, including interested bodies such as heat network operators and local planning authorities, is an appropriate demographic to have as statutory consultees.

However, the second tier of proposed consultees could be expanded beyond heritage and environmental bodies to offer the opportunity for community groups and community energy organisations to respond to the consultation. The importance of engaging with these groups was highlighted by Bristol Energy Network.

These groups have invaluable knowledge of the different type of heating technology solutions that might suit different areas, developed from years of community engagement. They can also offer crucial insight into where smaller, more rural heat network zones might be appropriate and, as stated in the previous questions, ensure that the heat network zoning process does not miss potential localised pockets of enthusiasm for heat decarbonisation or socio-economically deprived areas which might not show up in heat demand mapping exercises but could benefit from cheap low-carbon heating.

Q74. Do you agree that the Zone Coordinator and/or the Central Authority should have the power to revoke a zone?

Yes.

Q75. Do you agree with the process for revoking zones?

Yes.

