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From Plans to Planning System?

Roles and Responsibilities for Clean Heat Planning in Britain



UKERC Working Paper

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1. Summary

Regional Energy Strategic Plans (RESPs), led by the National Energy System Operator (NESO), are the newest addition to Britain's clean heat planning landscape. They aim to connect national strategy and regulated electricity and gas networks with the local plans that already exist. This report, part of the UKERC project *Regional energy planning and heat*, maps the formal institutional arrangements for clean heat planning and delivery in Britain as of August 2026. It draws on analysis of policy documents and is guided by the Institutional Analysis and Development framework[1].

In this report we present five institutional maps. Four cover the key actors, roles and relationships in RESP, Local Heat and Energy Efficiency Strategies (LHEES), Local Area Energy Planning (LAEP) and England's heat network zoning. The fifth shows the emerging interfaces between these arenas.

Key insights arising from the development of these maps include:

- **The existence of multiple sites of planning authority.** Local authorities lead LHEES in Scotland and LAEP across Scotland, Wales and England where they are developed. Local authorities may also coordinate heat network zones in England. The Heat Network Zone Authority, a new body set up under the Energy Act 2023 will provide centralised coordination of heat network developments within England, whilst NESO now holds planning authority at a regional scale under RESP, introducing a new layer between local and national.
- **Responsibilities for planning are better defined than responsibilities for delivery.** Formal responsibilities sit mostly within new designated energy system planners including NESO, local authorities and the heat network Zone Authority, as well as network operators: few actors hold explicit responsibility for delivering clean heat.

Exploration of these maps with stakeholders, during a workshop held in September 2026, further highlighted mismatched planning cycles, the need for two-way information flows between regional and local plans, the importance of informal relationships, and the absence of spatial planning and its interaction with energy planning.

These maps show arrangements as designed, not as they operate in practice. Further testing and refinement of these maps with stakeholders, and mapping informal rules and practices, are the next steps in the research.

We invite you to use and challenge the maps. Each is available as an editable Miro board: duplicate it, adjust or annotate it to reflect your own understanding, and send us your version. Equally, if you spot omissions or errors, do let us know by emailing Jake Barnes.

2. Introduction

In the UK, space heating accounts for approximately 25% of final energy demand[i]. Whilst many pathways exist for decarbonising heat in homes, workplaces or industry, no single solution fits everywhere. Which options are technically feasible, affordable and acceptable depends on local and regional circumstances, and delivery relies on millions of individual decisions[2]. As local heat decisions accumulate, they shape the options available to others, making more systematic planning for clean heat critical to meeting legislated carbon budgets[3].

Over the last decade several approaches have been developed to support local clean heat planning and delivery. These include Local Heat and Energy Efficiency Strategies (LHEES) in Scotland, which are limited to heat only and does not include industrial heating; heat network zoning in England, which is also limited to heat but does include industrial heating; and Local Area Energy Planning (LAEP), which are designed to be whole system. Regional Energy Strategic Plans (RESP), also designed to be whole system, are the latest addition. Led by the National Energy System Operator (NESO), they aim to align local plans with national strategy and connect predominantly local authority-led heat planning to regulated electricity and gas network operators. They could help consolidate a planned approach to infrastructure investment. However, RESP is at an early stage and the implications for clean heat planning and delivery are unclear.

This report is part of Regional energy planning and heat, a UKERC project examining the introduction of RESPs and their implications for clean heat planning and delivery. Three questions guided the research:

1. How does RESP assign roles and responsibilities for clean heat planning and delivery in Britain?
2. How does the distribution of roles and responsibilities under RESP compare to those under LHEES, LAEPs and heat network zoning in England and how do these planning arenas connect, support or overlap one another, if at all?
3. How is the creation of RESP governing processes with respect to clean heat, including the creation of boards and working groups as well as early stakeholder engagement, experienced by stakeholders in Scotland, Wales and Southwest England, and how do these experiences compare?
4. What, if any, informal RESP governing processes and practices do key stakeholders in each nation and region view as important with respect to clean heat and how do informal processes compare to formal roles and responsibilities?

This report addresses the first two questions. It summarises the results of our early analysis of policy documents mapping the formal roles and responsibilities of key stakeholders in heat planning. It outlines our approach, then presents five maps:

[i] 2024 estimate based on UK government energy consumption in the UK statistics, accessible at https://www.gov.uk/government/statistics/energy-consumption-in-the-uk-2025

RESP governing arrangements; three associated heat planning arenas (LHEES, LAEP and heat network zoning); and the emerging interfaces between all four.

This work is exploratory and we are mindful of possible omissions and errors. But in sharing early research outputs we hope to constructively inform regional energy planning in Britain. To provide feedback on the maps email Jake Barnes .

3. Approach

This exploratory study combines content analysis of policy documents, focus groups and interviews to identify and visually represent key relationships between stakeholders working at the intersection of RESP and clean heat planning and delivery in Britain. This report covers the first part of the research, which involved the analysis of formal documents and the creation of formal institutional maps. Testing these with stakeholders, and mapping informal rules and practices, are the next steps.

Our approach draws first on the Institutional Analysis and Development (IAD) framework, which explains how institutions shape the behaviour of individuals or organisations in governing collective action problems, and second on studies of long-term, large-scale systems change. The IAD framework rose to prominence as a counter to the hypothesis that markets and hierarchy are the only means to solve societal problems. It has been used extensively to examine polycentric systems like clean heat planning and delivery, where no single central authority exists and multiple centres, each with some autonomy, coordinate, compete, cooperate, and learn from one another. Informed by the IAD framework and its contemporary application [4,5], Table 1 sets out the focus of the study.

Guiding focus	**Approach**
How is the action arena defined?	Clean heat planning and delivery within Regional Energy strategic Planning, where: • Clean heat is defined as an *energy service* that delivers heating with net zero carbon dioxide emissions across its life cycle, including production, infrastructure, and end use, and where the energy service is delivered through *socio-technical systems* • Planning and delivery concerns reconfiguring these systems away from fossil fuel-dependent arrangements towards those based on energy sources capable of achieving net zero lifecycle emissions, and • RESP concerns the formal, regional energy planning within GB, led by NESO

Guiding focus	Approach
What is the primary focus?	Formal and informal institutions and their interactions
What is the timeframe?	A static assessment of governance arrangements as of August 2026 before publication of the final RESP methodology
What Interactions	• Formal competencies and rules *and* • Informal rules governing how and which stakeholders interact

Table 1: Study focus

The analysis followed three stages:

1. Selecting documents: The team compiled a long list of policy and strategy documents relevant to clean heat planning and delivery previously known to them and screened it against the inclusion criteria in Table 2. The two lead authors each ranked the 35 documents that passed by relevance, then agreed a final analysis order through discussion.
2. Analysing documents: we analysed documents in priority order in Nvivo qualitative analysis software, with the intention to continue until no new stakeholder groups, roles, and relationships emerged. However, saturation proved relative to the planning arena in focus (i.e. RESP, LHEES, etc.) and so we stopped analysing RESP-specific governance documents once saturation was reached, before moving on to key documents for related arenas. For each actor we coded formal responsibilities (set by legislation, regulation, policy or official methodology), then formal and emergent institutional roles, then the functions they perform, such as data provision, modelling and convening. This evidence was compiled in a structured dataset.
3. Mapping: We then analysed how actors relate to one another (for example, collaborates with, provides oversight of) based on their roles, responsibilities and functions. We turned this evidence into simplified institutional maps of key stakeholders, formal roles, responsibilities and connections, drawn in Miro, an online collaborative whiteboard. Editable versions of the maps can be viewed online.

Inclusion criteria	Exclusion criteria
• Covers clean heat planning and delivery and/or RESP • Geographic scope being Great Britain • 2020 onwards	• Not focussed on clean heat planning and delivery and/or RESP • Geographic scope outside GB • Pre-2020

Table 2: Document inclusion and exclusion criteria

4. Results

We now introduce the five institutional maps in turn. Each map can also be accessed online.

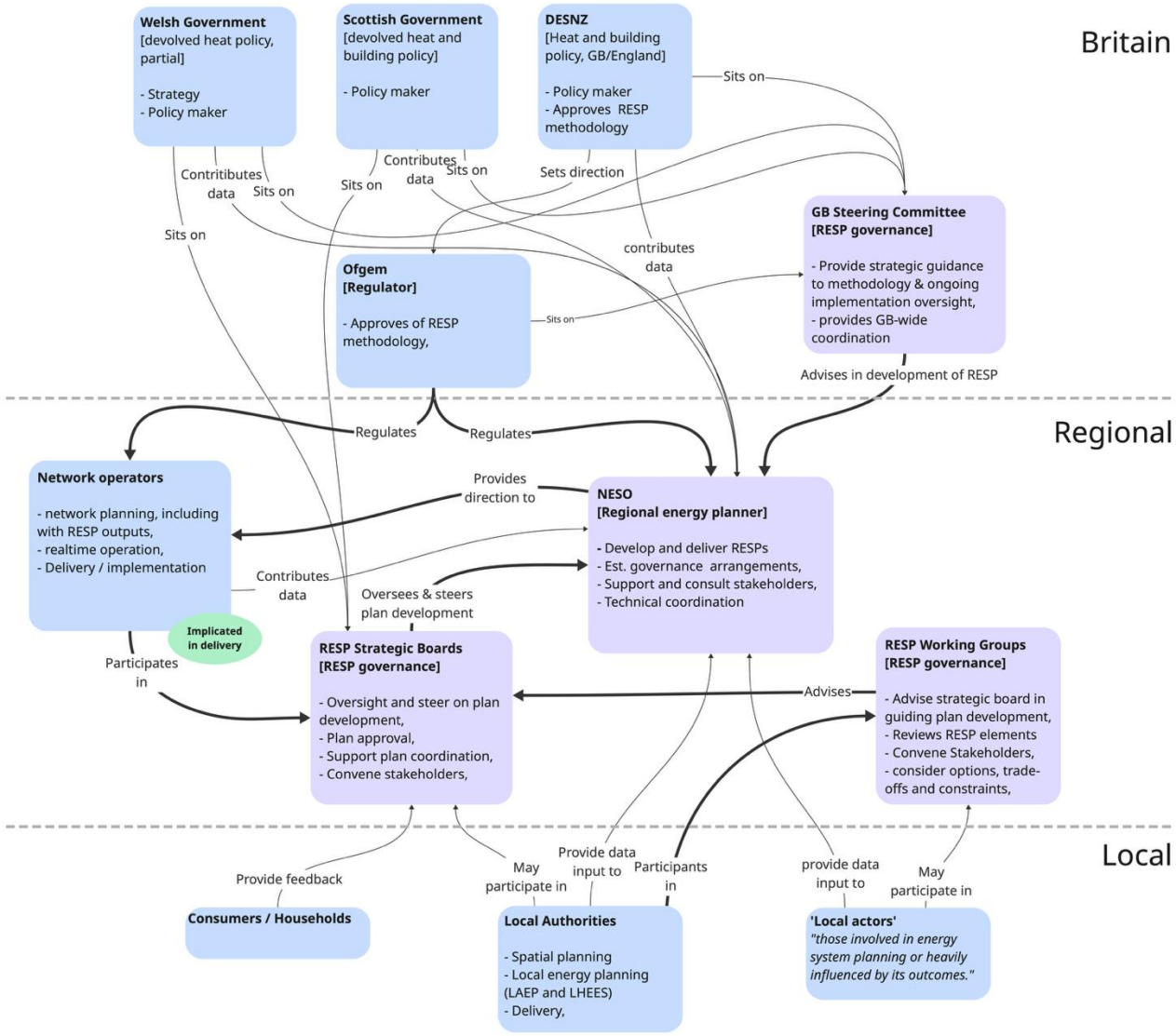
4.1 Regional Energy Strategic Planning Governance Arrangements

Ofgem appointed NESO as responsible for regional energy planning in November 2023. RESPs sit within a broader framework of strategic energy planning, also led by NESO. This includes a Centralised Strategic Network Plan (CSNP) which will map supply and demand locations for long-term network planning, and a Strategic Spatial Energy Plan (SSEP) which will take a zonal approach to mapping generation and storage at GB level. RESPs are intended to function as collaboratively produced, place-based strategies to coordinate cross-vector energy system planning and network infrastructure investment. RESPs thus form part of a long-term, whole-system approach to energy infrastructure planning across Great Britain, intended to bridge GB energy objectives and local delivery. NESO is tasked with producing eleven RESPs by the end of 2028: one each for Scotland and Wales, alongside nine regions in England.

The following map depicts relationships between key actors involved in regional energy planning and has been developed following the analysis of five policy documents[ii].



[ii] Ofgem (2023) Decision on future of local energy institutions and governance, available at https://www.ofgem.gov.uk/decision/decision-future-local-energy-institutions-and-governance ; Ofgem (2025) Regional Energy Strategic Plan policy framework decision, available at https://www.ofgem.gov.uk/decision/regional-energy-strategic-plan-policy-framework-decision ; Ofgem (2026) RESP - License Modifications available at https://www.ofgem.gov.uk/sites/default/files/2026-03/RESP-Decision-on-licence-modifications.pdf ; Ofgem (2026) RESP guidance, available at https://www.ofgem.gov.uk/sites/default/files/2026-03/Annex-E-RESP-Guidance-Associated-Document.pdf ; NESO (2025) Regional Energy Strategic Planning Draft methodology for consultation, available at https://www.neso.energy/what-we-do/strategic-planning/regional-energy-strategic-planning-resp/regional-energy-strategic-planning-methodology-consultation



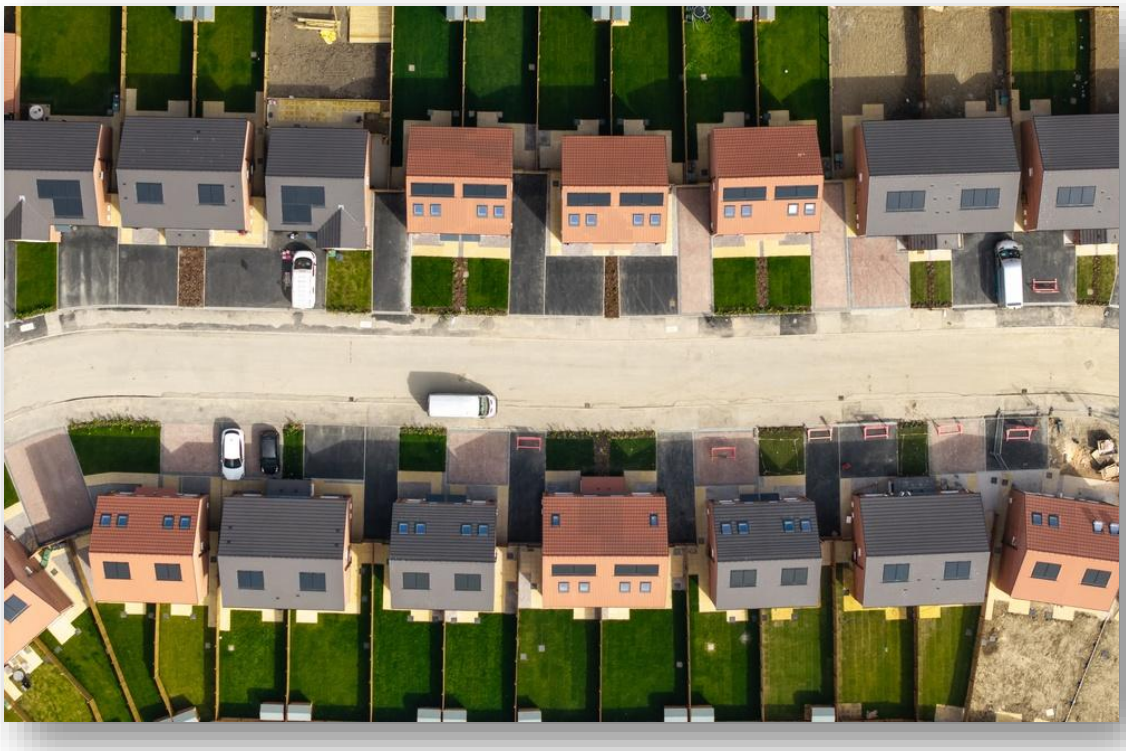
Note: Pink boxes indicate new institutions created in relation to RESP.

Figure 1: Key actors, their roles and relationships in Regional Energy Strategic Planning

4.2 Local Heat and Energy Efficiency Strategies (LHEES) Governance Arrangements

LHEES are Scotland's statutory framework for local heat planning. By 31 December 2023 all 32 local authorities in Scotland were funded by the Scottish Government to produce a strategy setting out how buildings in their area would be decarbonised and made more energy efficient, together with a plan for achieving this. Strategies will be reviewed on a five-year cycle. The strategies take an area-based approach, identifying zones where particular solutions such as heat networks or individual heat pumps are likely to be most suitable, and they are intended to align with Scottish Government targets on heat in buildings and fuel poverty. Local authorities lead LHEES, supported by Scottish Government guidance and by data and methods from national bodies. Network operators and other local actors are consulted but have no formal role in setting strategy.

The following map depicts relationships between key actors involved in LHEES and has been developed following the analysis of LHEES guidance published by Scottish Government[iii].



[iii] Scottish Government (2022) **Local heat and energy efficiency strategies and delivery plans: guidance**, available at https://www.gov.scot/publications/local-heat-energy-efficiency-strategies-delivery-plans-guidance/

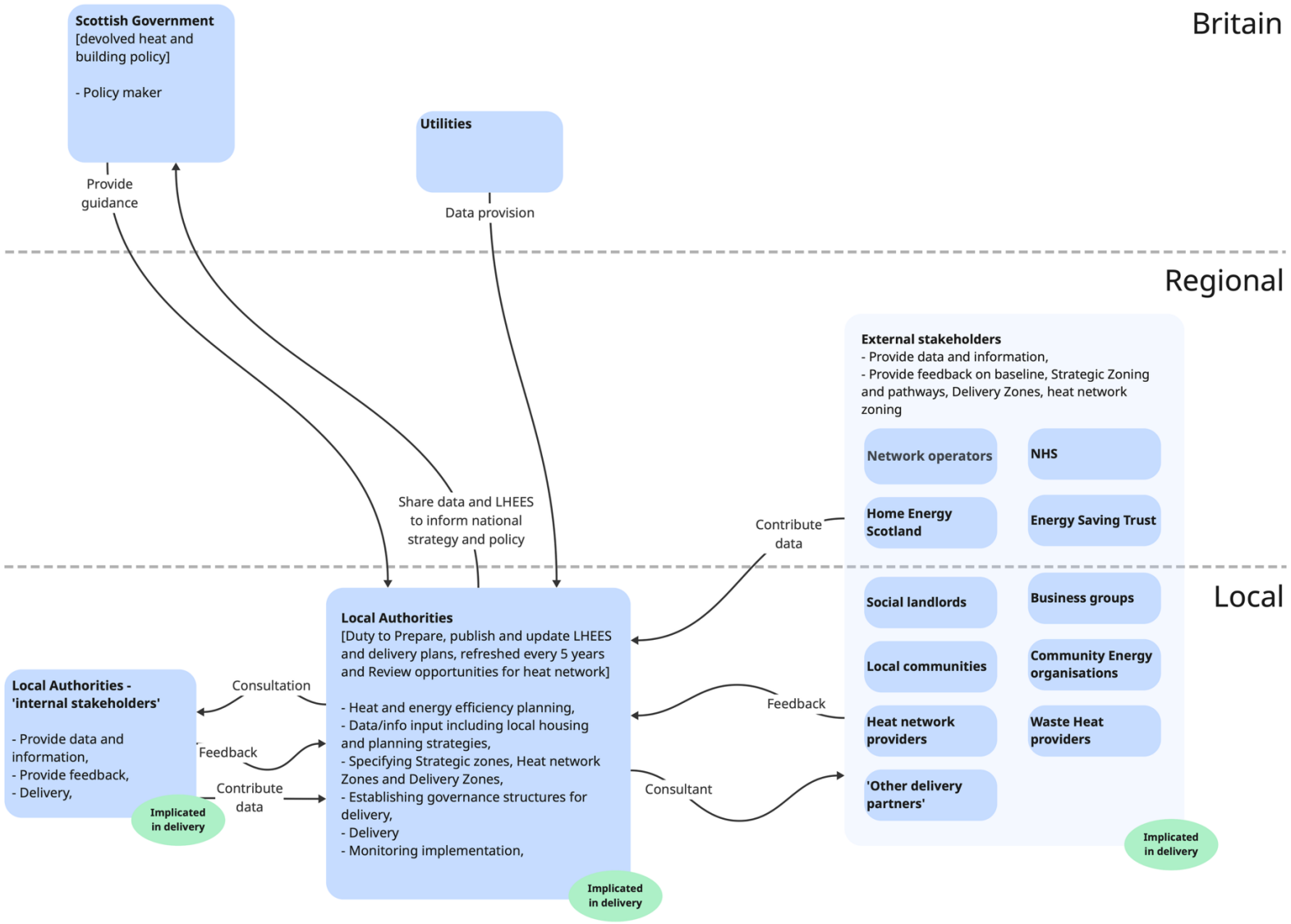


Figure 2: Key actors, their roles and relationships in Local Heat and Energy Efficiency Strategies

4.3 Local Area Energy Planning (LAEP) Governance Arrangements

Local Area Energy Planning is a place-based whole-energy system approach to energy system planning led by Local Authorities. LAEP methodology was published in 2017, following development and piloting by the Energy Technologies Institute (ETI) and Energy Systems Catapult (ESC). LAEP has since been consolidated into a seven-step data-driven process (ESC 2022) designed for analysis of building stock energy performance, heating technologies, electrification of transport and energy network capacities. The final LAEP provides a spatially explicit and costed plan identifying what needs to change, where, when, and who is responsible, alongside near-term actions and investment priorities[6]. All 22 local authorities in Wales have LAEPs following a Welsh Government requirement, and funding, in 2022. LAEPs remain discretionary in England and Scotland, led by local and combined authorities with varied funding and support. Local Authorities producing LAEPs are supported by network operators, who contribute evidence, shape the plan and support decision-making and, in most cases, by paid consultants, including ESC, who undertake detailed scenario modelling. Local stakeholders are consulted throughout.

The following map depicts relationships between key actors involved in LAEP and has been developed following the analysis of LAEP guidance by the Energy System Catapult[iv].



[iv] Energy System Catapult (2022) **Guidance on creating a Local Area Energy Plan,** available at https://es.catapult.org.uk/guide/guidance-on-creating-a-local-area-energy-plan/

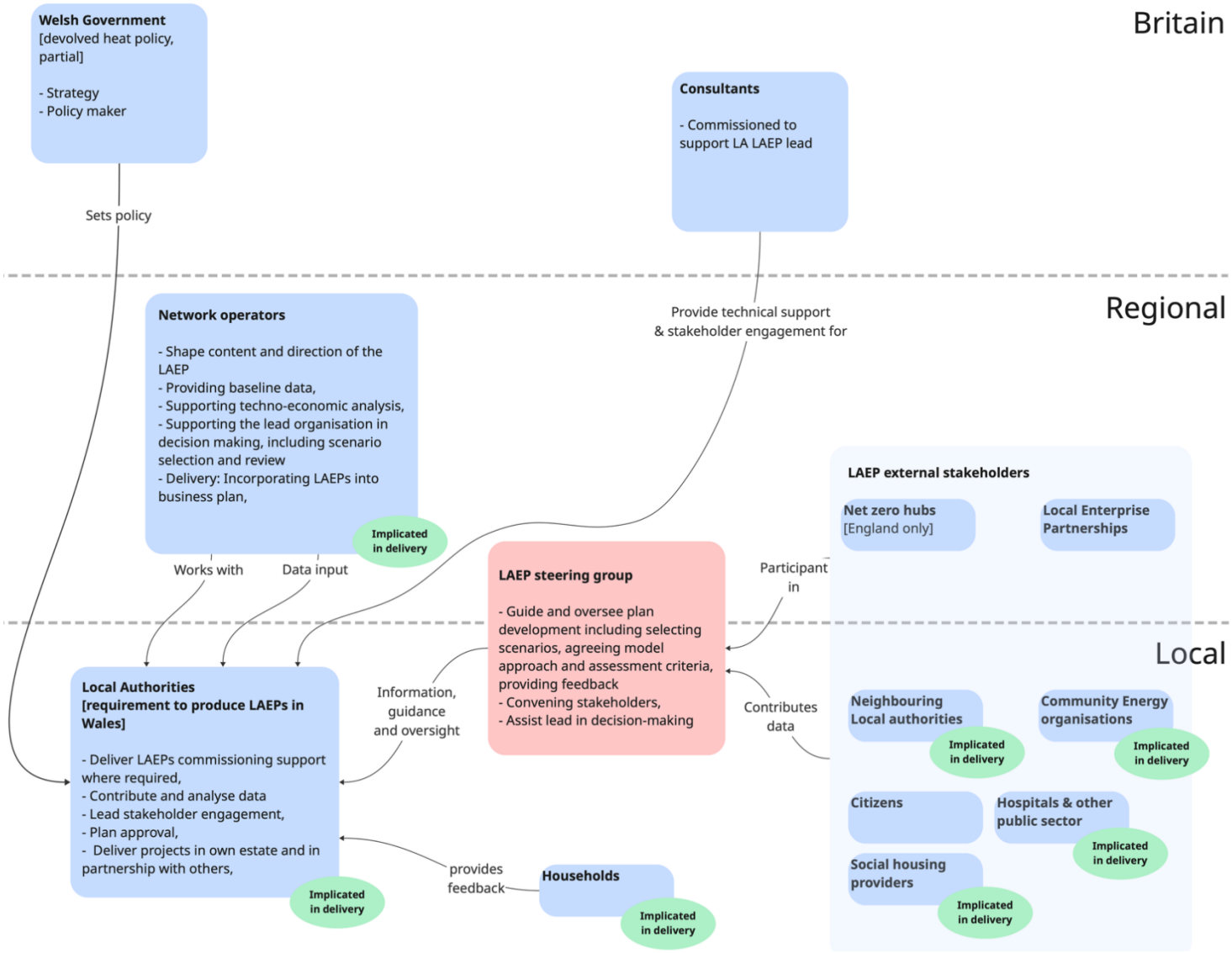


Figure 3: Key actors, their roles and relationships in Local Area Energy Planning (LAEP)

NB: Orange box indicates new arena created within LAEP.

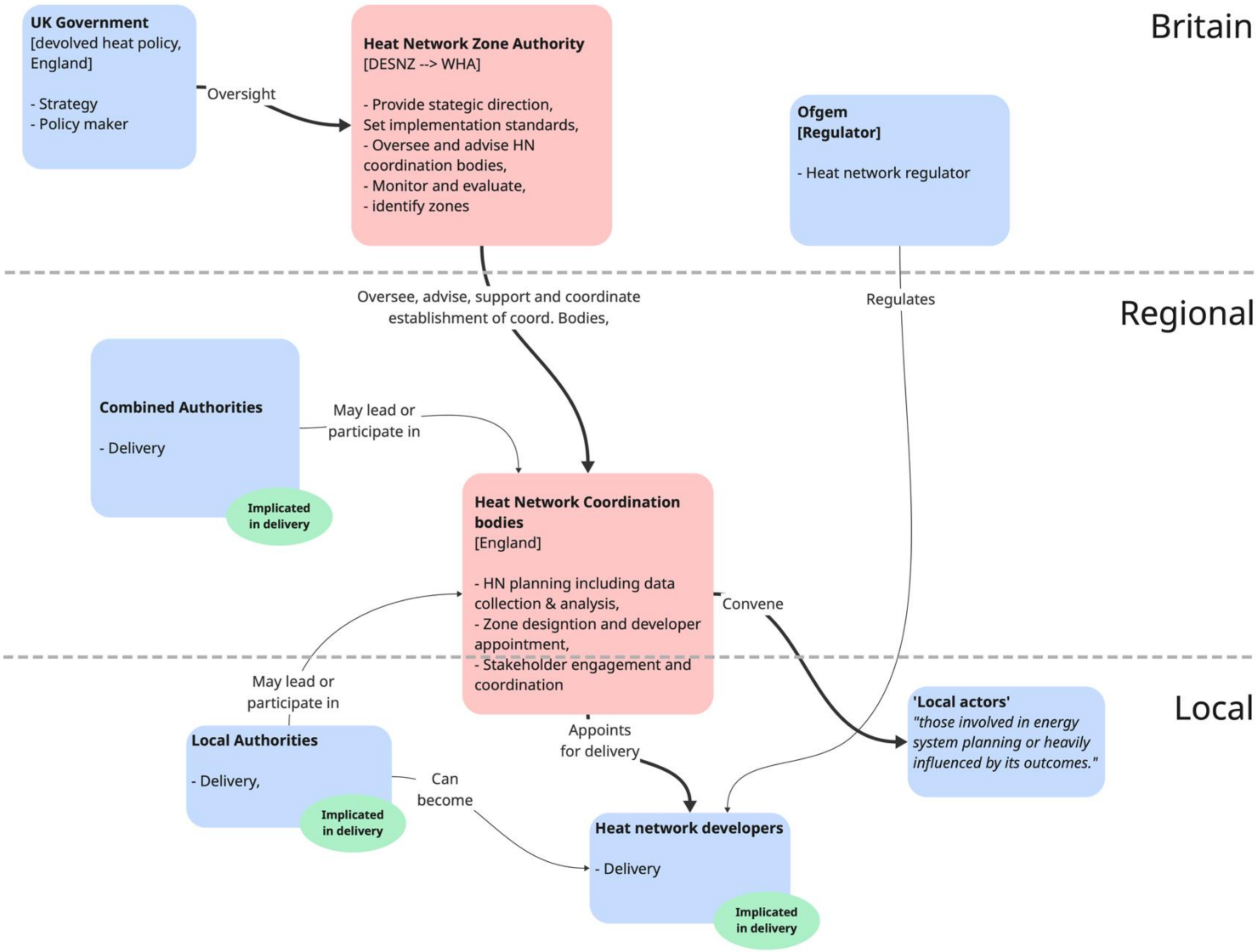
4.4 England-specific Heat Network Zoning Governance Arrangements

Introduced through the Energy Act 2023, heat network zoning is an England-only policy. It aims to designate areas where heat networks are expected to be the lowest-cost route to decarbonising heat. Equivalent national heat zoning is being developed in Scotland but is not covered here. In England heat network zoning will be coordinated by two new institutions. The approach seeks to support greater collaboration between local and combined authorities and heat network developers via newly designated Heat Network Coordination Bodies which undertake basic planning for heat networks and specify zones, supported by a national Heat Network Authority. Zoning will, in principle, result in legal obligations on owners of large buildings within designated zones to connect, and provide clearer roles for heat network developers in delivery. The obligation to connect will require secondary legislation.

The following map depicts relationships between key actors involved in heat network zoning in England and has been developed following the analysis of two documents[v].



[v] UK Government (2026) **Heat Network Zoning, Government response to 2023 consultation**, available at https://assets.publishing.service.gov.uk/media/6970ad6dec1d126584b9ef20/heat-network-zoning-government-response-to-2023-consultation.pdf and Department of Energy Security and Net Zero (2026) **Warm Homes Plan**, available at https://www.gov.uk/government/publications/warm-homes-plan,



Note: Oranges boxes indicate new institutions created in relation to heat network zoning.

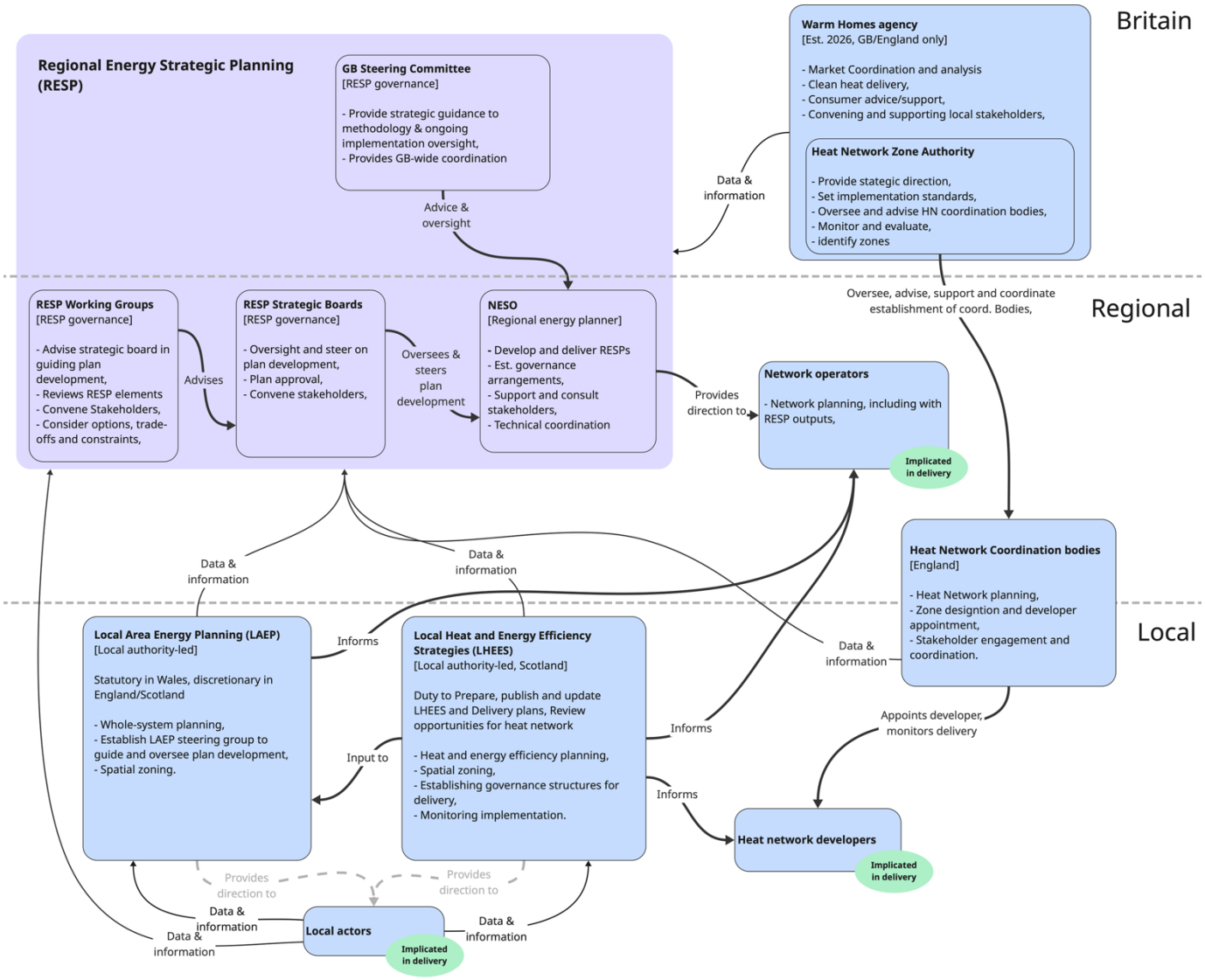
Figure 4: Key actors, their roles and relationships in England-specific Heat network zoning

4.5 Emerging Interfaces between planning areas

The final map shows emerging interfaces between these four planning arenas (RESP, LHEES, LAEP and heat network zoning in England). It has been developed by simplifying the preceding four planning arena maps into a single simplified map showing key interactions. This is the map which was explored in an online workshop on 15 September.

Figure 5: Key Interactions between clean heat planning arenas

Note: Pink boxes indicate new institutions created in relation to RESP.



5. Summary of Progress

Analysis has resulted in four institutional maps, each providing a visual depiction of the key stakeholders involved in a particular heat planning arena, their formal roles and responsibilities vis-à-vis each other. Based on analysis of formal roles and responsibilities, these maps depict the institutional arrangements conceived within key policy documents rather than how key stakeholders are interacting in practice. Exploring how institutional arrangements are being established in three RESP nations and regions is the next step of the research.

Each map serves to elicit the centre of gravity for each approach, including which organisation(s) are assigned planning functions like scenario-based modelling, which organisation(s) play supportive roles such as data input, and with whom responsibility for delivery does or does not reside. One deliberately simplified map shows the emerging interactions between these planning arenas according to formal documentation. Due in part to the RESP methodology being published after LAEP and LHEES documents analysed, many interactions between arenas reflect formal relations to RESP. Nonetheless, the principal insight from this comparative map concerns the extent to which multiple sites of authority are being constructed over clean heat planning. Local authorities are being given delegated responsibility under LHEES and LAEP in Scotland and Wales respectively. Local Authorities, acting individually or as part of collectives, may also take on responsibility as heat network zone coordinators in England, supported by the Heat Network Zoning Authority in England, currently hosted by DESNZ with a decision on its move to the Warm Homes Agency yet to be taken. Meanwhile, NESO has been delegated authority to develop strategic plans in Scotland, Wales and nine regions of England. As the latest planning framework to be introduced, RESPs introduces a new site of planning authority, at a regional rather than local or national scale, raising questions about how the governance of energy and clean heat in particular, will continue to evolve in Britain.

Several key insights have already emerged from a workshop with GB-wide stakeholders in September 2026 in which Figure 5, emerging interactions between planning arenas, was discussed. Insights included (but were not limited to): challenges of timing and sequencing of interactions; the importance of bidirectional interactions and the degree to which arenas overlap; the perceived gap between planning and delivery and absence of delivery responsibility; the importance of informal connections, flows, and the absence of a spatial planning arena. Collectively, they affirm differences between how planning systems operate in practice than on paper, the difficulty in designing new planning systems and the need for reflexive governance processes. Participants' reactions to the maps and the quality of the resulting discussion point to the value of institutional mapping as a tool for exploring emerging formal and informal relationships in clean heat planning and delivery.

Each of the five maps can be explored further online via the following link. To adjust and annotate the maps, first duplicate the Miro board. If you experience any problems accessing these maps please do not hesitate to get in contact. We welcome all comments on this draft report and the included maps and invite you to send us your version of each or any of the maps by emailing Jake Barnes.

6. References

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