POLICY NOTE

For discussion purposes only – these suggestions do not represent Nesta's final policy view

Policy note: planning and coordinating the switch to low-carbon heating

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This note is intended as a discussion document, for testing and development or refutation.

It does not represent Nesta or anyone else's policy advice at this stage, but we are keen to explore the ideas in this proposal.

If you are interested in further shaping our thinking or have direct experience in delivering any of the processes outlined in this document please see the project page, with a link to register to contribute. Throughout this document, there are questions that highlight the areas of uncertainty in this concept and the areas in which we will work with partners to build confidence.

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Planning and coordinating the switch to low-carbon heating

The UK's current approach to get homes to switch to low-carbon heating is primarily market-led and based on individual choice. The government provides some incentives, but does not currently plan or guide the process (outside of heat network zones). This individual approach may be insufficient to support the scale and pace of the transition needed.

Coordinated approaches to low-carbon heating involve switching many homes in a street or a neighbourhood, rather than requiring each home to switch individually. Benefits of coordinated approaches may include:

- cost savings through economies of scale
- ease and attractiveness for households
- enabling the delivery of heat networks in densely populated areas
- speeding up the transition to low-carbon heating
- coordination with network upgrades.

Key points in this policy note

- There is a strong case for more active planning of the rollout of low-carbon heating and more use of coordinated approaches to deliver low-carbon heating, such as street-by-street switching and shared infrastructure.
- Every local area across Great Britain is likely to need an institution to lead on local energy planning and coordinate the transition to low-carbon heat. This could be an existing institution with an expanded remit, or a new institution or partnership. The exact approaches may vary between the devolved nations.
- One model could be to form 'local energy planning partnerships' between energy bodies distribution network operators (DNOs), new regional energy strategic planners (RESPs)) and local authorities to lead this planning.
- Local partnerships could also plan and commission street-by-street transitions, where whole streets or neighbourhoods are offered the chance to switch together.

1. Planning the heat transition

The government has recognised the need for local energy plans. Every area in Great Britain will need to develop these plans, detailing the pathway to net zero, including the transition to low-carbon heating.[1] This process is already underway to different extents across the country. All local authorities in Wales and Scotland and some in England are already working on local energy plans. We think this needs to be undertaken in every area, with sufficient resources and a consistent methodology as far as possible.

Why plan the transition?

A UK-wide transition to low-carbon heating will be a complex undertaking. Several aspects of it would benefit from more active local planning:

- coordinating the installations of electrical heating systems with electricity grid upgrades to ensure that supply matches growing electricity demand
- ensuring that the construction of local energy infrastructure can be better reflected in local spatial planning systems
- identifying the locations most suitable for coordinated approaches
- indicating the most suitable form of low-carbon heat to groups of homeowners, giving them confidence and clarity about the changes they can expect
- planning for the future of the gas grid as areas disconnect.

What should local energy plans cover on low-carbon heating?

As a minimum, local energy planning should cover the following on heat:

1. **mapping and data gathering:** map the expected uptake of low-carbon technologies over time to identify likely constraints on the distribution grid
2. **zoning:** moving beyond heat network zoning to indicate the most appropriate heating options for each neighbourhood and identify those suitable for coordinated switching
3. **impacts on grids:** identify areas with increasing electricity demand and/or declining gas use, and plan actions to address this.

Who should do the planning?

Obvious sources of expertise are the Distribution Network Operators (DNOs) and the Regional Energy Strategic Planners (RESPs) being created under the new National Energy Systems Operator (NESO). There is also a clear case for involving local authorities who currently lead on local area energy planning. However, capacity for doing this at local authority level is limited and inconsistent. Government will likely need to strengthen local authorities or form new institutions or partnerships to deliver local energy planning.

One model that may be considered is to create Local Energy Planning Partnerships across England, run by a board comprising RESP, DNO and local authority representatives. However, we intend to explore other options.

What is the right geography?

Most existing or soon-to-be-created energy bodies (DNOs and RESPs) are organised at regional scale. However, energy planning done at a regional level would likely lack the necessary granularity and local engagement. Local authorities currently lead on local energy planning. However, the scale of

local government varies from large combined authorities covering several million people down to authorities covering much smaller areas. Which of these represents a better basis for coordinated switching is an open question. There is also scope to use higher and lower tier bodies in a system of subsidiarity, where some issues pass down to more local bodies, such as district councils.

The role of central government

Building new institutions will require substantial new human resources. National governments should build up the capacity of existing bodies over time. Providing adequate funding will also be crucial, although this will be challenging in the current fiscal environment.

Central government will need to adopt a new role in supporting and overseeing Local Energy Planning Partnerships or any other new model. This could include:

- setting targets for each area (such as the number of low-carbon heating systems installed each year) and providing incentives
- overseeing and signing off plans for each partnership
- ensuring access to the data needed for effective local planning
- providing advice and guidance to local areas, in particular where there may be capability gaps, for example around procurement or other corporate functions.

This role could be fulfilled by a dedicated Local Delivery Unit within the Department for Energy Security and Net Zero or by a new national agency.

Questions on energy planning for heating:

- Do you agree that local energy planning will be needed in all parts of the country?
- Do you agree that more resources will be required to deliver local energy planning effectively?
- What would be the best institutional structure for local energy planning – a new institution, new partnerships, tasking existing institutions or something else?
- Could the institutions responsible for local area planning also take on responsibility for delivering the switch, for example using the model outlined in section 2? Why/why not?

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2. Delivering coordinated switching to low-carbon heating

We think the best way to deliver coordinated approaches could be on a "plan and commission" basis. This would mean:

- the local partnership or institution produces a plan which identifies locations suited to coordinated transitions, including possible timelines
- the plan is then commercialised, drawing on support from central government to ensure that propositions are both technically feasible and commercially viable
- the partnership or institution commissions organisations or consortia (which could be private, third sector or a mixture of both) to deliver coordinated switches in each location
- the contractor takes on the responsibility to develop offers and sign people up
- as an alternative to commissioning only low-carbon heating delivery, local partnerships could commission projects where heat is delivered as a service for a monthly fee. This would give the contractor more incentive to ensure the heating runs efficiently. They may decide, for example, to install additional insulation to reduce heat demand. In order for this to be a viable option, some regulatory changes may be needed, for example to enable contracts to be easily passed between homeowners when a customer moves house.

What would this model look like for residents?

Step 1: Identifying areas to be offered coordinated transitions each year

Based on local energy plans, the local partnership would identify areas to be offered coordinated transitions, such as a street-by-street approach. Once this is done, residents would receive advance notice about when the

street-by-street transition is offered. There may be some outline engagement at this stage, such as answering questions about why the street has been chosen and providing guidance about what to do next.

Step 2: Commissioning delivery bodies

The commissioning phase would be the primary place for competition. Our assumption is that local planning partnerships would tender for suppliers to deliver low-carbon heating, but that suppliers would receive payments from households. Therefore, bidders would need to weigh up how many homes would sign up and the revenue they expect to generate from this.

Key choices at this stage include:

- whether to commission each location individually or bundle them into larger commissions
    - Individual street commissions may enable more competition and variation in approaches and make it easier for small companies and/or non-profits to bid. Larger commissions may reduce the transaction costs of bidding, but may limit the number of companies that can access the market.
- what subsidies could be offered to potential bidders, alongside funding for social housing within the street
- whether to specify a product model, a particular service model or leave the model down to bidders.

Step 3: Signing up households

Once the supplier is appointed, they would engage local residents and homeowners and attempt to sign up as many as possible. Offers should be assured by the local partnership or by another public authority, to avoid any mis-selling.

The supplier would then install low-carbon heating and other infrastructure needed in all homes that signed up, possibly leaving connections available for homes to join later. Households would then pay any ongoing bills (either finance costs, service charges or other fees) for a number of years after completion of the scheme.

What would the offer look like to a customer?

- "[Company] has been chosen to switch your street to low-carbon heating in [June 2029]"
- "They will be available to discuss what will happen via [website, phone line, visit to neighbourhood on…]"
- If a product deal: "It will cost [£60 per month for 8 years] for your [heat pump]"
- If a service deal: "You will pay nothing upfront for your [heat pump] and will pay [£150 per month] for all of your heating, including the energy used for it. You may still need to pay in the normal way an additional electricity bill for the electricity you use for lighting and powered devices such as TVs, microwaves, phones and EVs. "
- "It's up to you whether you sign up, but if you don't we don't expect this offer to be repeated. You will need to decide by [April 2029]"

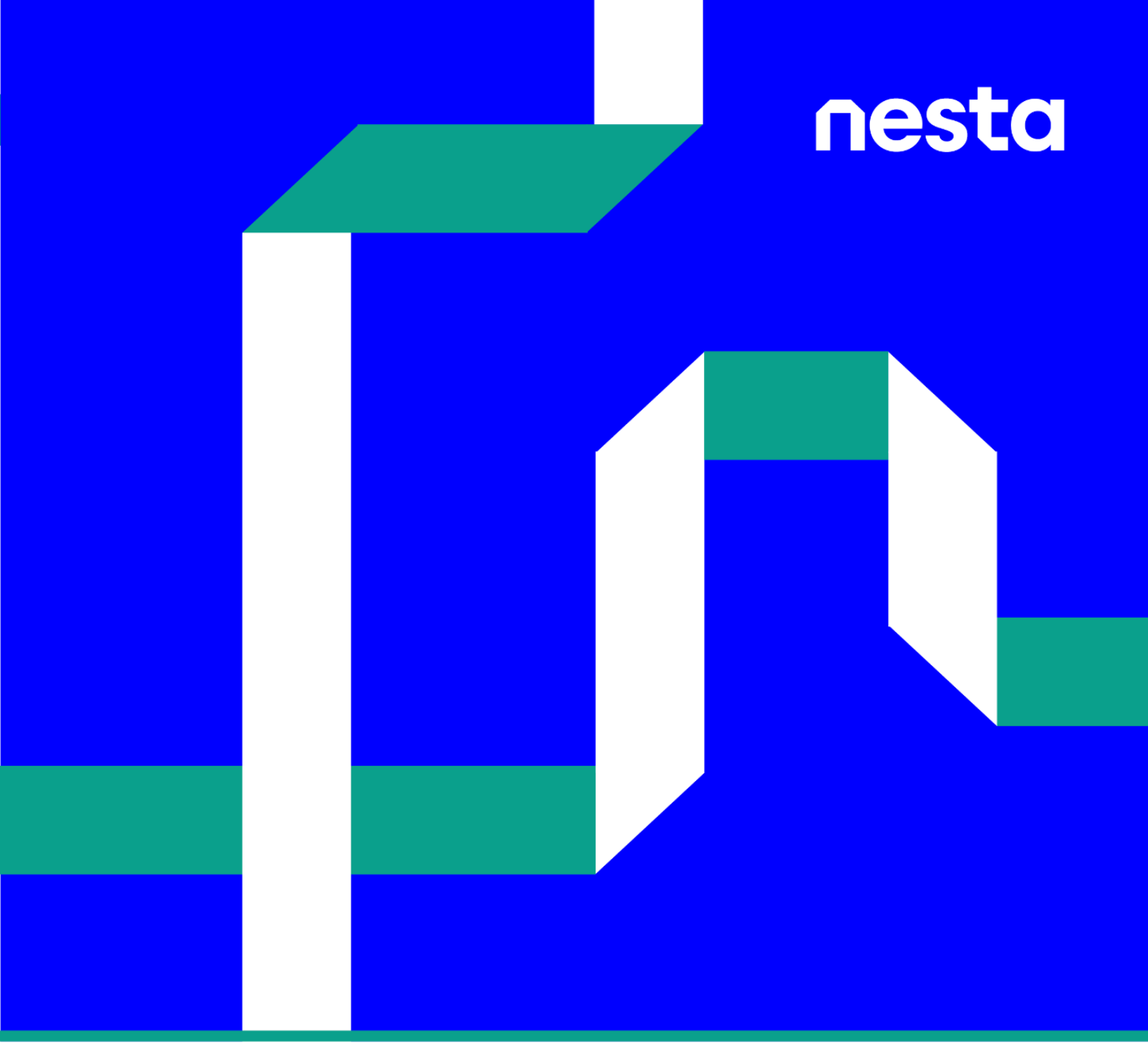
Questions on delivering coordinated switching to low-carbon heating

- Do you think a coordinated switching approach could work? And would it offer better outcomes than a market-based approach?
- Which areas would you prioritise a coordinated approach in – cities, suburbs, towns, everywhere?
- Do you think our proposed "plan and commission" approach would be the most effective way to organise coordinated switching? Is there a better model?
- Who should pay for different types of coordinated delivery schemes? What combination of public and/or private funding and loans would work best for consumers?
- Should sign-ups be voluntary or mandatory? What instruments could be used to motivate households?

This proposal is to be tested and iterated during our project, *Clean heat: coordinating the switch street by street*. If you would like to contribute, please visit our project page.

Endnotes

1. We have focused this proposal on Great Britain as the institutional landscape in Northern Ireland is different, but are interested in exploring how a similar model could work in NI.



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