**19th May 2023**

**Examination of the Stroud District Local Plan Review**

**This note relates to follow-up information requested by the Planning Inspector following the Local Plan examination hearing held on 24/03/23 with regard to Policy DES3 Zero Carbon Heat Supply under Matter 10a.**

1. **Justification for the change in policy wording from that published in the Pre-submission Draft Plan to that submitted by Stroud Council in its Hearing Statement on Inspectors’ matters, issues and questions.**
2. **Recommendations on updating the supporting policy text to align with the revised policy.**

**Original Policy from Pre-submission Draft Plan**

Text

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**Original supporting text:**

Communal heating is a technology which uses one heat source to provide heat to two or more properties. Instead of each property having its own heating system separate from any other property, a group of properties connected to a district or community heating network all receive heat (in the form of hot water or steam) from a central source, via a network of insulated pipes. This can be more efficient than each property having its own heating system, because heat generation is more efficient at larger scales.

The Committee on Climate Change’s core Net Zero Carbon scenario suggests that around 5 million homes across the UK will need to be connected to heat networks by 2050. In this context, the Government’s Clean Growth Strategy suggests that around one in five buildings will have the potential to access a largely low carbon heat network by 2050.

The heat source of a communal heating system is traditionally a basic boiler, although more recently higher efficiency Combined Heat and Power (CHP) systems are used. CHP produces both heat (sometimes with cooling) and electricity, so with a CHP district heating system, as well as a network of pipes distributing heat/cooling, there is also a grid connection or network of wires to distribute electricity to one or more local users. In the latter case, where the output is not grid-connected, this is referred to as a private wire network.

A large part of the cost of developing a heating network is laying pipes, due to the need to excavate roads or other land, which is expensive. An energy centre, which houses the heat source, also needs to be established; this could be located within one of the buildings in the network or it could be in its own separate building. Overall costs vary widely depending on the number and type of buildings connected and the area covered. Installing a heat network in a new development is usually cheaper than installing it in an existing development because pipes can be laid at the same time as other infrastructure when roads are built. In this way, new developments often act as a trigger for a network, but with the potential to also supply existing heat demands from buildings in the vicinity which may improve economic viability.

**Proposed revised wording[[1]](#footnote-1) to Delivery Policy DES3:**

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| **Delivery Policy DES3**  **Zero Carbon Heat Supply** |
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| All new development should incorporate efficient zero-carbon heating systems which minimise running costs.  To minimise carbon emissions and running costs, heating systems for new development should be selected in accordance with the following heating hierarchy:   1. Connect to local existing or planned heat networks. 2. Create a site-wide heat network and commit to extending the network beyond the site where viable. 3. Install communal heating systems which minimise the cost of future connection to a heat network. 4. For extremely thermally efficient\* and/or small-scale developments where 1-3 are not viable, install individual-premises heating systems.   In applying the above hierarchy, the following points should be taken into account:   * Where a zero-carbon heat supply has been shown to be unfeasible or unviable, local ambient or secondary low carbon heat sources (in conjunction with electrically powered heat pumps\*\* if necessary) may be used. * In areas identified as having high potential for heat networks, or where a local heat network is planned but not yet in existence, or connection is not currently viable but may become viable in the future, the development should be designed to allow for cost-effective connection. In this case the heat should be supplied according to step 3 of the above hierarchy.   All development will be built in accordance with the approved plans, and the Sustainable Construction Checklist and Energy Statement.  \* for example, ‘Passive House’ standard#  \*\*electrically powered heat pumps are assumed to become zero-carbon when grid decarbonises. |

**Justification of revised wording**

The original policy published in the pre-submission draft Local Plan was drafted in late 2019 and was considered in need of re-wording for the following reasons:

* To frame the overall policy in terms of a zero-carbon heat supply requirement to better align to SDC’s carbon neutral 2030 target and corresponding efforts to decarbonise heat supplies, also seen as crucial for the UK’s 2050 net zero target;
* To introduce the minimisation of running costs for heat consumers as a key policy criteria alongside zero carbon heat supply;
* To clarify how heat networks, communal heating systems and scale of development feature within the heating hierarchy;
* To reflect the Government’s plan to introduce heat network zoning across England by 2025.

**Proposed supporting text:**

The decarbonisation of heat supply has a vital role to play if Stroud District is to reach its aim of becoming carbon neutral by 2030. New development will therefore be expected to exploit opportunities to implement zero carbon heating systems and should avoid the use of fossil fuel heating systems. One such opportunity involves heat networks which offer a proven, cost-effective way of providing reliable, efficient, decarbonised heat at a fair price to consumers, while supporting local regeneration. The Committee on Climate Change estimate that around 18% of UK heat will need to come from heat networks by 2050 to support net zero targets, with the remainder coming from a mix of sources including heat pumps within individual buildings.

Heat networks typically use one heat source to provide heat to two or more separate buildings. Instead of each building having its own heating system, a group of buildings connected to a heat network all receive heat (in the form of hot water or steam) from a central source via a network of insulated pipes. Heat networks (also called district heating networks) are distinct from communal heating systems which instead only provide heat to multiple properties within the same building. Both types can be more efficient than each property having its own heating system because heat generation then has the potential to be more efficient due to the larger scales involved.

The heat source for a heat network or communal heating system was traditionally a basic fossil-fuelled boiler, but the drive towards zero carbon heat means alternative sources and technologies need to be identified. This is helped by the unique ability of heat networks to unlock otherwise inaccessible larger scale renewable and recovered heat sources such as waste heat, ambient heat (usually extracted via heat pumps from the ground, bodies of water or the air) or other renewable energy technologies.

A large part of the cost of developing a heating network is laying pipes, due to the need to excavate roads or other land, which is expensive. An energy centre, which houses the heat source, also needs to be established; this could be located within one of the buildings in the network or it could be in its own separate building. Overall costs vary widely depending on the number and type of buildings connected and the area covered. Installing a heat network in a new development is usually cheaper than installing it in an existing development because site design considerations can be factored in at the planning stage and pipes can be laid at the same time as other infrastructure. In this way, new developments often act as a trigger for a heat network, but with the potential to also supply existing heat demands from buildings in the vicinity through a wider network which may improve economic viability.

The relative importance given to heat networks within the policy’s heating hierarchy reflects their expected key role in heat decarbonisation and ensures that opportunities for their development are maximised and not missed. New development should proactively plan for heat networks in accordance with the heat hierarchy. Where appropriate, development should demonstrate a thermal masterplanning approach considering efficiency/opportunity issues such as mix of uses, anchor loads, density and heat load profiles to maximise opportunities for the use of heat networks. The Council currently operates a Sustainable Construction Checklist, which will be updated to reflect the latest standards and best practice. In accordance with Policy ES1, all development proposals should be accompanied by an Energy Statement, which should also demonstrate compliance with Policy DES3.

Heat should be supplied from renewable sources. If heat supply to a new development through a heat network is initially proposed as low carbon rather than zero carbon heat this should be justified and plans for how and when this will be decarbonised in the future should be evidenced through a phasing plan and would be expected to be secured by legal agreement. Where the individual circumstances of a new development mean that heat networks are not feasible or viable, the policy allows for non-networked solutions such as individual small scale heat pumps serving individual properties, which are assumed to become zero carbon in the future when the electricity grid decarbonises. The heat hierarchy intentionally excludes the use of direct electric heating such as panel heaters, due to their inefficiency compared to heat pumps and high running costs for future residents.

It is expected that ongoing national policy development around heat network zoning will establish a nationwide methodology enabling local authorities to identify the best locations (zones) for heat networks in their areas. This methodology is being developed through the roll-out of a Heat Networks Zoning Pilot by the Department for Energy Security and Net Zero, which aims to help understand and plan how to develop heat network zones with the potential of providing the lowest-cost low carbon heat to end-users through regulation, mandating powers and market support. In addition, the outcomes of a Government consultation in 2021 on proposals for heat network zoning included plans to establish a new zoning coordinator role, generally expected to be fulfilled by local authorities, with responsibility for designating areas as heat network zones and enforcing requirements within them.

1. As included in appendix to SDC’s ‘matter-10-environment’ statement submitted in response to Planning Inspector’s questions in Feb 2023. [↑](#footnote-ref-1)