

Heat strategy for Wales

Consultation Response - CIBSE

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Section 2: A vision for heat in Wales

1. **Vision:** *Do you agree with our vision? (Yes/No) Please suggest amendments if you think it could be stronger.*

Yes. We have commented on specific policies and areas that may be reinforced in individual questions. Important ones relate to the decarbonisation of existing heat networks - see questions 11 & 12, and to skills, especially for housing retrofit – see question 6.

2. **Objectives:** *The Heat Strategy for Wales policies are broken down into 17 objectives within six groups. Do you agree they adequately cover the areas where Welsh Government needs to focus? (Yes/No) If you think there are any areas missing, please explain what they are.*

Yes. We have commented on specific policies and areas that may be missing or need reinforcing in individual questions. As noted above, important ones relate to the decarbonisation of existing heat networks - see questions 11 & 12, and to skills, especially for housing retrofit – see question 6.

Section 3: Our enabling framework

3. **Planning:** *Our Strategy identifies that the current permitted development rights related to heat pumps are a barrier to heat pump installation rollout. Do you agree? (Yes/No) Please explain.*

This is not an area that we have analysed in detail, but we have received feedback from some members that requirements go much beyond regulating performance and safety issues (as is the norm with building regulations regarding boiler location) and

can be a significant problem, as the requirements tend to force location in inconvenient positions for home occupiers. As noted in the strategy draft, England has recently changed permitted development rights for heat pump installations.

4. **Planning:** *Each local authority in Wales is producing a local area energy plan (LAEP). This strategy proposes the LAEPs should be used to help deliver place-based heat decarbonisation. Do you agree with this approach? (Yes/No) Please provide evidence, where relevant.*

Yes, this sounds reasonable in principle, subject to suitable development of skills among local authorities; because LAEPs would have long-lasting and significant impacts, it would probably also be worthwhile to implement a system of independent peer-review.

5. **Understanding and engagement:** *Does the strategy suitably address the advice needed to install low carbon heat? (Yes/No) Please explain which groups should be involved in raising awareness and providing advice.*

Yes – In regard to awareness the stakeholders in commercial property could be targeted more specially (Commercial Landlords and Property Developers), whilst some are going beyond regulatory minimum – many make investment decisions that does not wholly evaluate the operational energy and carbon impact.

6. **Standards:** *Do you believe the public available specification (PAS) standards are sufficient to ensure high-quality work and a whole-building approach? (Yes/No) Please explain. How can the adoption and implementation of these standards be further encouraged?*

On the whole, yes, although they could evolve with feedback from practice on the ground, and in some points of technical detail e.g. recommended assessments for buildings of traditional construction. They should also be linked to building performance evaluation, as intended in the creation of BS 40101. The issue to address, as pointed out in the consultation question, is to encourage their adoption and implementation, so that experience and qualification do not become a “pinch point” limiting the implementation of retrofit programmes. There is currently growing but still relatively limited capacity. Upskilling and adoption of the standards should be encouraged through a stable policy environment which encourages investment in skills, and through requirements on public procurement and other publicly funded projects, so that supply chains would develop the competence and then apply it more widely.

7. **Skills:** *Do you agree that Welsh Government has a role in understanding and subsequently supporting the development of the necessary skills for heat decarbonisation? (Yes/No) Please highlight any emerging skills/roles which we should support.*

Yes it does, at the very least by:

- providing a stable policy environment that will encourage organisations and individuals to invest in skills
- incorporating requirements in public procurement, giving further incentive for supply chains to invest in those skills, and then apply them wider in the industry
- support to the creation of standards and certification schemes, where gaps are identified.

Emerging skills and roles are as covered extensively in this consultation i.e.

- Heat pump system design (including sizing) and installation, especially at the small scale of individual homes
- Retrofit: from early evaluation through to installation and evaluation.

8. **Costs:** *Do you agree with the position set out in the strategy that the UK Government should move environmental levies from electricity bills to general taxation? (Yes/No) What additional policies should be implemented to ensure a fairer distribution of costs?*

CIBSE do agree that environmental levies placed onto electricity bills are problematic, since they go counter to heat decarbonisation by making electricity comparatively more expensive, when it is in fact lower carbon than other options. How the equivalent revenues would best be recovered from elsewhere is not CIBSE's expertise to comment. One argument could be to put this onto gas and other fossil fuels, to align costs with carbon impacts, but this cannot be done without a retrofit programme as it would increase the prevalence and depth of fuel poverty: both energy pricing policies and retrofit policies must be applied and complement each other, to be effective and to avoid detrimental consequences.

Section 4: Transforming our networks

9. **Electricity networks:** *Do you agree that upgrading Welsh electricity networks for net zero will require clear leadership and plans from Welsh Government and local authorities? (Yes/No) Please explain your reasoning and highlight any further roles for Welsh Government on this challenge.*

Yes. The recent National Infrastructure Commission report (2nd National Infrastructure Assessment, October 2023) is clear that Government has a role to play. We would refer to their recommendations, including: “adding low carbon, flexible technologies to the electricity system to ensure supply remains reliable, and creating a new strategic energy reserve to boost Great Britain’s economic security”.

10. **Heat network zoning:** *Do you agree that local area energy plans (LAEPs), led by local authorities, is an appropriate method for identifying areas for heat networks? (Yes/No) Please explain.*

Yes in principle, but the aim should not be solely to determine where networks can be implemented, but whether and where they should as the lowest cost and carbon option.

CIBSE agree about the potential usefulness of local area energy mapping and planning. Furthermore, this should offer benefits not only for heat networks and heat mapping in general, but also for planning other infrastructure work (including works to the local electricity network for electrical vehicles, and tree planting), in order to minimise disruption, costs, and embodied carbon - we recommend referring to the work of the Joint Utilities Group and the Trees Design and Action Group on this.

11. Heat network connections: *Do you agree that new housing developments and large commercial buildings should be required to connect to new district heat networks? (Yes/No)*

No. CIBSE have previously expressed concerns about this, including in the 2021 BEIS consultation on heat zoning. New buildings are expected to have very low heat demand (or they should, if Building Regulations achieve their objective), and they have opportunities for very low carbon heating systems. While we very much understand the useful lever that new buildings can provide, we do not think they should by default be required to connect. The criteria should be performance related (including carbon and costs to consumers), in order to 1) avoid linking buildings to high-carbon sources for the long term, and 2) drive the decarbonisation of existing heat networks, an area where policy is currently insufficient.

Should small scale, ambient temperature, heat networks be included in this obligation? (Yes/No)

As noted above, we do not think this should be an obligation. But if it is, ambient networks could be included.

12. Heat network support: *Do you agree heat network development requires further funding and support? (Yes/No) Please explain.*

Possibly, given their high initial capital costs and long lead times, but this should be subject to criteria including energy performance, carbon performance, and costs to consumers (among others – CIBSE CP1 can be a reference for performance criteria). This should give attention to decarbonisation of existing heat networks, not just the development of new networks.

13. Hydrogen for heat: *The strategy states that based on evidence gathered, heat pumps will be the championed solution for most building heat. Hydrogen's role will be in defined zones for high-temperature industry, as well as for wider net zero solutions prioritised by how useful hydrogen will be (known as 'the hydrogen ladder'). Do you agree that a clear statement is needed on hydrogen's role in meeting Wales' heat decarbonisation ambitions? (Yes/No) Please explain.*

Yes. We agree with the proposed strategy, that hydrogen should not in general be the priority solution for building heating, with the possible exception of local areas

and circumstances e.g. industrial clusters. We also agree that a clear statement on this would be very helpful for industry and consumers, to avoid the perception that “hydrogen ready boilers” are the solution.

Section 4: Improving the energy performance of our homes

14. A clear framework: *Do you agree that stronger regulation is needed to encourage the uptake of low carbon heat and more energy efficient homes? (Yes/No)*

Yes, particularly for existing homes where the regulatory framework is limited both for works to existing homes (covered by Building Regulations) and at trigger points such as sales, rental, and works not covered by Building Regulations but still substantial in terms of costs and disruption (e.g. new kitchen). We have provided extensive feedback on this in consultations and call for evidence over the past few years, including in particular the CIBSE submission to the Environmental Audit Committee Inquiry on Energy efficiency in existing homes, July 2020: this includes a number of recommendations on supply chains, skills, and the policy framework, which are directly relevant to this inquiry. We have included extracts below which are of particular relevance. We assume the submission is accessible to the Welsh Government and therefore have not attached it here (following advice on EAC submissions), but would be happy to provide it if needed.

What other interventions must be implemented alongside stronger regulation to ensure no one is left behind?

We would refer to the recent report by the National Infrastructure Commission on this, including the following recommendation (underline by CIBSE): “*The costs of the upfront investment will be paid for by consumers over the coming decades, not all at once. There should be support for the households who can least afford extra costs”.*

15. Holistic approach to fuel poverty: *The Warm Homes Programme has been offering new gas boilers, where appropriate, to those eligible., Do you agree that our future investments in energy efficiency must, where possible, simultaneously support our heat decarbonisation pathway? (Yes/No) Please explain and expand on opportunities to address fuel poverty holistically.*

Yes, we very much agree. Public expenditure in 2023 and onwards, supporting new gas boilers, should be limited to a small number of exceptions where alternatives are very costly or technically difficult, or in emergency situations where a more thought-through alternative cannot be found in a timely manner. Financial support from public funds should come with a clear long-term strategy to a low energy and decarbonised home, captured in a retrofit plan and building passport; this would also help the development of skills in this area - see questions 6 and 7.

16. Traditional buildings: *Do you agree that demonstration projects for historic and traditional building retrofit are needed? (Yes/No) Are there further interventions needed to grow the market for traditional building retrofit?*

Yes, with caveats: The wording of the question, which refers to “demonstration projects” is not entirely consistent with the strategy document, which refers to “exemplar projects”. It is not clear in the strategy document what the purpose of the “exemplar projects” would be. In short:

- In the past decade, there has been a lot of work by heritage bodies in Wales, as well as by Historic England, Historic Scotland and large property owners (e.g. National Trust, Grosvenor) on energy efficiency and heat decarbonisation of historic buildings. Most recently, CIBSE and Studio PDP have been working on a project supported by Innovate UK and Historic England, which evaluates 10 homes (including 5 pre-1919) which had been subject to a deep retrofit about 10 years ago, to assess what solutions have stood the test of time and what additional lessons can be learnt – we would be very happy to discuss our findings with you and how a similar programme could be applied in Wales, to represent construction typologies common in Wales and not captured in our project. This must be built upon: in many cases, the time now is for action and implementation: projects should therefore contribute to further demonstration and encourage action from others by making it easy for them to see best practice examples e.g. in high-profile buildings, and in homes across varied locations. They could also still be evaluated and contribute lessons for future improvements, but they should not be seen as one-off bespoke demonstration projects.
- In parallel, there may be a need for specific demonstration projects, on specific construction typologies or retrofit solutions, where the evidence base is insufficient and field demonstration & research is still needed. This should be differentiated from the previous type of demonstration project, and limited to areas of real evidence gap.

17. Smart meters and variable tariffs: *Do you agree that emphasis on smart meter rollout and variable tariffs are important to address now, to minimise bills during the transition to low carbon heat? (Yes/No) How best can Welsh Government support this, while advocating for those who are unable to participate in energy flexibility?*

Yes, though smart meters on their own will not be sufficient: they must be accompanied by a retrofit programme that includes solutions allowing people to reduce and manage demand, in order to act on the information provided by the smart meters such as the most beneficial time to use energy.

18. Upfront cost of heat pumps: *Do you agree that dedicated long-term finance packages are needed to support the installation of heat pumps? (Yes/No) Please explain.*

Probably, but they need to be designed carefully in order to be effective:

- First, increased supply needs to be supported, including through a clear direction and stable policy in order to encourage supply chain development, investment in manufacturing capacity and skills etc. Recent U-turns by the UK government are detrimental.

- Second, some types of financial support often end up not helping consumers, but instead pushing up prices, by amounts broadly similar to the financial amount. Careful design of the support is needed here, as well as support to the supply side.

Section 4: Evolving our businesses

19. Regulation: *Do you agree that stronger regulation is needed to phase out fossil fuel boilers, on and off-grid, in commercial properties? (Yes/No) What other interventions must be implemented alongside this stronger regulation to ensure this transition does not have adverse impact on businesses.*

Yes. As noted in other questions, a stable policy environment, public procurement and public funding can support the development of supply chains (including skills), which in turn will support businesses who seek to decarbonise.

20. Accelerator programme: *Do you agree that an accelerator programme is needed to share best practices and build confidence in low carbon heat, across different commercial building types? (Yes/No) Please explain.*

Yes, especially for:

- SMEs
- Consumers with a high demand for hot water & catering.

This must include guidance and demonstration of best practice to reduce emissions from refrigerants, including refrigerant selection, system design (e.g leak detection systems), and best practice installation, maintenance, repairs & end of life. In many non-domestic properties, such as small shops, this is likely otherwise to be a major source of emissions, as emissions will otherwise be limited to a small amount of (increasingly low-carbon) electricity for cooling, refrigeration, ventilation and lighting.

We would also point out to CIBSE's recent and upcoming guidance on heat pumps in the non-domestic sector. These include;

- CIBSE AM17: Heat pumps for large non-domestic buildings- published 2022 and developed with support from Department for Business, Energy & Industrial Strategy (BEIS)
- CIBSE AM16 Heat pump installations for multi-unit residential buildings (2021) – developed with support from NHBC
- Soon to be published CIBSE TM 51 Ground Source Heat Pumps – being developed in association with the GSHPA.

21. Net zero targets and tracking: *Do you agree that heat decarbonisation will require us to foster a culture of transparency and accountability for businesses? (Yes/No) With reference to heat decarbonisation, what more*

should Welsh Government do to ensure reliable information is communicated to customers?

Yes. We strongly supported the UK government's plans for rolling out operational energy ratings across the commercial sector. These plans are in an uncertain state currently. We would very much welcome efforts by the Welsh Government to re-invigorate them and roll them out in Wales.

Section 5: Future-proofing our industry

22. Industrial roadmaps: *Do you agree that we should create decarbonisation roadmaps across key industrial applications, and if so which champion the best available techniques? (Yes/No) Should Net Zero Industry Wales have a role be in this process? How can the identified techniques be effectively disseminated and further incentivised?*

Yes and no: industrial roadmaps may be useful, but we are not sure government is best placed to create them. It should, at least, be co-created with the relevant industrial sectors (e.g. concrete, steel etc). Indeed, some of these sectors already have roadmaps, so government should work with them to take them forward and support them, not re-create them from scratch.

23. Small and medium-sized enterprises (SMEs): *As an integral part of the industrial sector, what specific resources or assistance are needed to help industrial SMEs with their heat decarbonisation?*

Even more so than for large companies, the stability of the policy environment is crucial for SMEs, to give them the confidence to invest and help them secure private investment.

24. Industrial hydrogen: *Do you agree that Welsh Government has a role in understanding and mapping future demand for hydrogen from high temperature industrial heat, to ensure the infrastructure is in place to allow fuel switching? (Yes/No) Please explain and expand on Welsh Government's role, if applicable.*

Yes, in collaboration with industry. This should include consideration of alternatives so hydrogen (which for a while will be expensive and energy-intensive to produce) is reserved to the applications which truly require it in order to decarbonise.

Section 6: Leading the way with public services

25. Leading the way: *Public buildings provide vital services across Welsh communities. Do you agree that a near-term focus for this Heat Strategy should be to improve resilience, by continuing to decouple our public buildings from fossil fuels and improve their energy efficiency? (Yes/No) How can this help lead the way to decarbonise the rest of Wales' buildings?*

Yes. This can help in many ways:

- Build a reliable demand pipeline and therefore confidence in supply chains to invest in skills
- Develop competence for application elsewhere
- Create demonstrators, which help build confidence among clients and consumers
- Gather lessons for improvements in future installations.

~~26. **Collaboration:** Our Strategy states the need for public bodies to collaborate effectively to ensure successful and cost-effective transitions. How best can Welsh Government support effective collaboration and shared learning?~~

~~27. **Resource and skills:** We have identified that skills and capacity building in public bodies are essential to support local area energy planning, resource local planning authorities, and deliver the transition on the public estate. Do you agree that the Energy Service is best placed to support this upskilling and provide additional resource? (Yes/No) Please explain.~~

Section 7: Taking action

28. Our asks of others: Do you agree that we have identified the main asks of others? (Yes/No) Please explain.

Yes, mainly, but we would add the following to the list of actions for UK government:

- Support to retrofit skills development: this can and should be driven by UK policy, not just in Wales e.g. by linking PAS to public procurement and funding
- Policy framework to drive the decarbonisation of existing heat networks.

29. Costs and savings: The costs set out in the strategy are drawn from the Climate Change Committee analysis. Is there additional evidence on the costs and potential savings that we should consider?

In addition to the savings identified, retrofit of the housing stock to reduce demand and support demand management should open the potential for savings in infrastructure costs (e.g. renewable energy capacity)

30. Our routemap: Do you agree that our policies routemap is sufficiently clear? (Yes/No) Please explain.

As per response to questions 1 & 2

31. Our pathway: The strategy is based on the Climate Change Committee's Balance Pathway. Do you agree with this approach? (Yes/No) Please explain.

To some extent, but the CCC scenarios assume only a relatively limited improvement to the energy efficiency of the existing stock. We are aware they are revisiting this, especially in light of the recent increases in energy costs. We very

much support more ambitious targets in improving the existing stock, in order to support reductions in energy bills, improved comfort, health and wellbeing, and reduction in infrastructure requirements through reduced demand.

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