



**Department for Business, Energy and Industrial  
Strategy  
consultation**

**Heat networks: consultation on market framework**

**Submission from CIBSE**

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- CIBSE is one of the leading global professional organisations for building performance related knowledge. The Institution and its members are the primary source of professional guidance for the building services sector on the design, installation and maintenance of energy efficient building services systems to deliver healthy, comfortable and effective building performance. This includes the field of heat networks and low carbon heat sources.
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### CONSULTATION RESPONSE

**As the following two consultations by BEIS are intrinsically linked, this document is in response to both:**

- **Changes to RHI**
- **Future support for low carbon heat.**

The proposals in these two consultations can only properly be gauged in their overall context including regulations, incentives and support mechanisms. We understand this will be set in the heat strategy which is expected later this year and which is very much needed. Without this context, CIBSE do not feel it is possible nor effective to make meaningful and detailed comments on the proposals.

We understand the need to respond to the current uncertainty about policy and incentives post-RHI, and indeed we have recommended for over 2 years that the post-RHI situation should be clarified. However, the current measures introduce significant changes to the current support system, without providing a long-term view and the certainty needed for consumers and supply chains. It is very likely that the

current disruption caused by the COVID-19 outbreak will further undermine confidence and supply chains. We therefore recommend that government should:

- **produce the clean heat strategy** as soon as possible,
- in the meantime and until the strategy is implemented, **simply extend the RHI (domestic and non-domestic) to prevent a period of complete vacuum as a COVID-19 recovery measure.**

Other than a small number of questions in each consultation, we have therefore not responded to individual questions in detail, but instead have structured our recommendations against key themes:

- Clean heat strategy
- Low-carbon heat competence.

## **NEED FOR A HEAT STRATEGY FOR THE UK**

We detailed our recommendations for a heat strategy in our response to the 2018 Heat Framework Consultation<sup>1</sup>. We repeat them here as we still await significant progress on these points. In summary:

- The UK's heat framework is a complex and inter-related system; it needs an overall vision and detailed implementation measures, "working back" from that vision to identify the measures required from today to deliver it; the framework needs systems thinking and cannot be defined in isolation.
- Energy efficiency is a key attribute of the energy system and needs to be a major part of the heat strategy; it needs more ambitious targets and a comprehensive national strategy. This would have significant benefits not only in terms of energy and carbon savings, but also in reducing the required grid capacity; it could also play a major part in helping to engage consumers with the co-benefits of low-carbon buildings, including comfort and health.
- The UK needs a clear, strong and consistent regulatory framework. Past experience from carbon reduction policies and from the heating industry shows that given the scale and timescales of the challenge, solutions cannot be left to the market alone.
- There needs to be confidence in the financial incentives in place until scale builds in the market, including support beyond 2021; incentives need to be consistent with the regulatory framework.
- Lessons can and should be learnt from past policies and incentives such as the RHI and Green Deal including, crucially, on consumer behaviour.
- Government and the public sector should lead by example.

In particular and for the purpose of these 2 consultations, a clean heat strategy is needed in order to see financial incentives such as the RHI and grants in their context, including:

- **Regulatory requirements for clean heat:** Regulations could act as a major driver for supply chains to develop, and there is little known about the current plans for this, other than:
  - banning gas installations in new build homes from 2025, which would represent a very small proportion of the market.

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<sup>1</sup> [A future framework for heat in buildings, CIBSE response, June 2018](#)

- proposals for the regulation of heat networks, which would only apply to new networks and do not set a clear commitment to carbon performance requirements. This is not sufficient, and we have detailed our concerns in the recent response to the consultation on this issue<sup>2</sup>.
- **Energy prices:** there needs to be a review of energy pricing to gradually align it with carbon impact, in order to incentivise the right decisions. Currently, the significantly lower cost of gas compared to electricity can skew investment towards higher-carbon solutions, which in turn means that financial support for low-carbon technologies is required to increase uptake.
- **Strategy for retrofitting the existing building stock:**
  - Retrofit is required in order to reduce both annual consumption and peak demand
  - It can also improve the performance of low-carbon heat systems, particularly heat pumps which operate better when linked to low-temperature heating systems.
  - The replacement of existing heating systems is a major undertaking, both in terms of capital costs and disruption to occupants; it is therefore a significant opportunity to promote energy improvement works, and we recommend it should be linked, at the very least, to a requirement to produce a building passport. In some cases, these works could then happen at the same time, and allow smaller capital expenditure in the heating system; in other cases, they could happen later, as part of a longer-term step-by-step plan to net zero carbon. In addition, government should also consider whether grants and other forms of financial support for new heating systems should be linked to minimum energy efficiency requirements for the building, in order to capitalise on opportunities for improvement works, reduce capital expenditure and over-sizing of systems and improve value for money from the financial support scheme.

## LOW-CARBON HEAT COMPETENCE

One useful outcome of the domestic RHI has been to spur and support the development of the MCS scheme, benefiting products and installers, and to provide data and lessons for its gradual improvement.

While some schemes exist for products (e.g. Ecovent and Eurovent provide product performance metrics), no fully equivalent scheme exists for installations above the domestic RHI size threshold i.e. setting performance requirements for installers and products in installations above 45kWth<sup>3</sup>.

We understand this is because of a historic expectation that, beyond the domestic and small-scale non-domestic sectors, clients have more ability to procure the right design, installation and maintenance for their heating systems. In fact, this is not necessarily the case.

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<sup>2</sup> [Heat networks: consultation on market framework, CIBSE response, June 2020](#)

<sup>3</sup> The exception is for solar thermal products, covered by the CEN Solar Keymark. We acknowledge the existence of CHPQA, which covers CHP installations, but the majority of CHP installations are gas-fuelled, not delivering carbon savings due to decarbonisation of the electricity grid.

In our 2018 response to the Heat Framework consultation, CIBSE recommended that a review should be carried out of the performance of medium and large RHI installations, similar to that for domestic RHI installations which led to the establishment of the MCS scheme, in order to assess whether additional installer training, installer certification, and product accreditation schemes would be required and if so, whether they already existed or needed to be developed. We provided our initial mapping of existing schemes and gaps. We are not aware that such a review has been carried out; indeed the National Audit Office pointed out a lack of performance indicators in the RHI scheme, other than number and capacity of installations, and total heat produced (which does not say how efficiently this was achieved)<sup>4</sup>.

In addition, the low carbon heat transition presents a particular challenge: moving from a market dominated by a single solution (gas boilers), to a range of options, where the best suited will typically be quite dependent on the particular project (location, load profile, maintenance resources available etc). Consumers should be presented with robust and impartial advice on their options. This must not be underestimated: while the advice is already available and utilised in some parts of the non-domestic sector (e.g. high-end commercial offices), it is far from widespread across the non-domestic sector.

We therefore strongly recommend the development of a competence scheme to develop knowledge, skills and competence in supply chains, particularly the installers, which would capture the whole market and would have the following characteristics:

- **Building on existing supply chains and qualifications** (e.g. plumbing and heating qualifications), to provide these supply chains with a transition plan to the low-carbon economy
- **Covering design, installation and maintenance**
- **Including an element that is technology-agnostic**, so that consumers can receive robust and impartial advice on low-carbon heat options, and to cover the skills and knowledge foundations on low temperature heating and hot water systems. This would be supplemented by individual qualifications for specific systems.
- **Including an element that relates the provision of low-carbon heat to overall energy efficiency and demand reduction**. We do not mean that the same individuals would necessarily have to be able to advise both on heating systems and on overall retrofit, but consumers should be provided with some advice on the potential.

CIBSE are aware that proposals are being developed by parts of the industry for such competence schemes<sup>5</sup>, and that advice is being provided to BEIS on this – this is welcome; CIBSE would be happy to support these efforts.

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<sup>4</sup> [NAO, Low-carbon heating of homes and businesses and the Renewable Heat Incentive, February 2018](#)

<sup>5</sup> e.g. the Heat Pump Association's report "Building The Installer Base For Net Zero Heating", June 2020

## **SPECIFIC RESPONSES TO CONSULTATION ON FUTURE OF LOW CARBON HEAT**

### **Clean gas**

In the short term, we understand the value of contributing to decarbonising the gas grid. However, the proposals cannot be gauged on their own, without consideration of the longer-term strategy and whole system:

- What would be the impact on land use, and how may this compete with other measures required to achieve net zero e.g. biomass growth for use in CCS plants and for timber to be used in construction, both as recommended by the CCC?
- Is heating in buildings the best use of low-carbon gas, or would it be best kept for higher-grade uses such as industry and heavy-goods transport?
- What is the maximum realistic impact on decarbonising the gas grid, and what will happen in addition to this i.e. should we expect further decarbonisation from hydrogen, or will gas grid decarbonisation only happen through biomethane? This is crucial to avoid locking buildings into fossil fuel systems in the hope of gas decarbonisation, when some of them could instead already start a transition away from fossil fuels.

Furthermore, biogas may have carbon benefits, but it has similar impacts on air quality as “normal” methane does, and so it does not have the same benefits as other low-carbon heat options in also supporting air quality and health objectives.

### **Clean heat grant scheme**

*Q23: Do you agree that support for buildings technologies should change from a tariff to a grant? Yes/No. Please provide evidence to support your response.*

*Q25: Do you agree that £4,000 is an appropriate grant amount to meet the aims of the scheme? Yes/No. Please provide evidence to support your response.*

As the National Audit Office report on the RHI pointed out<sup>6</sup>, capital costs are a significant burden mentioned by a large proportion of domestic and non-domestic users. In theory, a grant scheme could therefore contribute to more widespread and rapid uptake of clean heat technologies.

However, by the consultation’s own impact assessment, the current scheme would only contribute to a maximum of 25,000 new installations over 2 years (maximum budget of £100m, with a set £4,000 per scheme). By comparison, in the past 2 years for which data is available, the domestic RHI has supported just under 16,000 installations in total (60,492 installations as of 28 January 2018, to 76,208 installations as of 26 January 2020<sup>7</sup>). The Clean Heat Grant would therefore only represent, at most, a 50% increase in the number of installations supported – this is of concern, given the RHI has significantly under-performed in supporting the uptake of low-carbon heat, as pointed out by the NAO. This is nowhere near the order of

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<sup>6</sup> [NAO, Low-carbon heating of homes and businesses and the Renewable Heat Incentive, February 2018](#)

<sup>7</sup> [Ofgem, Public reports and data : Domestic RHI](#)

magnitude required in the uptake of low-carbon heat required to decarbonise our building stock, and build the supply chains to support the introduction of regulatory requirements.

The scheme is therefore not expected to have a huge impact on its own; in the worst case scenario, without regulations or other forms of support, it could even represent a **reduction** in the level of support.

Under current plans, this worst case scenario may well be the most likely: the consultation proposes that the domestic RHI will end in March 2022, immediately followed by the Clean Heat Grant scheme; under the government's current programme, the Future Homes Standard will only be implemented in 2025 at the earliest. This would leave at least 3 years without any form of support to domestic low-carbon heat other than the Clean Heat Grant scheme.

We are concerned that this would not meet the stated intent, i.e. provide the support to the introduction of regulatory requirements. It risks the creation of a funding gap at just the point where the industry needs to be ramping up production, installation and training to meet the requirements of the ending of connections to the gas grid in new housing.

This highlights why we do not think the proposals in this consultation can meaningfully be commented on, without a clean heat strategy providing the wider context.

In addition, grant schemes need to be designed very carefully if they really are to benefit consumers and/or increase uptake. Despite its limitations and low overall impact, the RHI had one benefit: it was linked to the actual uptake of low-carbon heat **in use** (with caveats on the well-publicised cases where, badly tuned and not overseen properly, it could lead to heat dumping). This means that, properly tuned and overseen, it could in theory act as an incentive to maximise the efficiency of an operation: for beneficiaries, they had an interest in avoiding over-sizing to limit capital costs, and maximising running hours and efficiency. By contrast, capital grants can often lead simply to increases in prices (i.e. benefiting the supply chain but not necessarily the consumers, nor increasing uptake), and there is no guarantee that the plant will operate efficiently, or indeed at all, once installed. This means the details of the scheme need to be carefully thought through, including:

- competence of the supply chain, to promote good quality installations and avoid over-sizing: see our recommendations above.
- performance requirements for products and systems: as per MCS, but at larger sizes too
- a system of monitoring of outcomes: this must NOT be limited to monitoring the number of installations and the total installed capacity (as noted by the NAO), but must include other indicators including actual heat output, performance of systems, and customer feedback. Government must be prepared to analyse the outcomes and fine-tune the scheme accordingly.

## **SPECIFIC RESPONSES TO CONSULTATION ON NON-DOMESTIC RHI**

A number of the questions relate to the detailed administration of the NDRHI scheme during its final phase before closing and CIBSE is not well placed to address these questions.

### **Closure of the scheme**

*Q1: Do you agree or disagree with the proposal to close the Non-Domestic RHI from midnight on 31st March 2021? Please provide evidence to support your reasoning; for example, around the impact on jobs, deployment, consumer bills and the supply chain.*

No. We understand the rationale in principle, and agree that the ambition should be for low-carbon heat technologies to be competitive on their own merit, however we do not agree with the closure of the non-domestic RHI until more is known about how clean heat in the non-domestic sector will be supported by a wider strategy. See more recommendations on such a strategy early on in our response.

Added to that, the closure comes hard on the heels of the disruption to installations and to the supply chain caused by the current pandemic. There is a real risk that projects that could, in all good faith, have completed by the deadline may not now be able to do so, through no fault of their own. Given the government's exhortations to the construction sector and its clients to act reasonably and in good faith over legitimate contractual disruption due to the pandemic, it seems a significant matter that there appears to be limited recognition of the impact of the pandemic on the renewable heat sector. Whilst the flexible tariff guarantees offer some scope, it is not clear that they will be sufficient, and they only apply to the larger installations.

It is well known that the closure of previous energy efficiency schemes including elements of the Feed in Tariff schemes led to widespread job losses and reductions in supply capacity and reduced investor confidence. The NAO and Select Committees have previously commented in detail on these consequences. There is a serious concern about the likely impact of the closure of the RHI in the current circumstances, especially given the lack of clarity over forward policy detail.

Given that the NAO report on the RHI found that "The Department does not include measures on developing the supply chain in its benefit realisation tracker" it may be hard for the Department to understand the likely impact of the closure on the supply chain and therefore to seek to mitigate the impact. Allowing modifications to existing schemes is welcome and important, but this alone will not maintain capacity. The NAO went on to recognise that:

"2.16 In its 2013 business case, the Department considered four changes which were necessary to prepare the supply chain for the future. These were:

- building sustainable renewable heat supply chains;
- improving the performance of renewable heating technologies;
- reducing costs of installing renewable heating technologies, through deployment at greater scale; and
- reducing some of the non-financial barriers, especially the perceived risk and lack of awareness of renewable heat technologies in the general public."

Given the importance of heat pumps to achieving the ambitious (and very welcome) commitments to low carbon heating, it is essential that the closure of the NDRHI does not cause significant loss of supply capacity or expertise. Indeed, achieving at least the final three bullets requires a competent and vastly expanded installer base.

Consumers are best protected in terms of their safety, health and economically by quality installations provided by competent installers. Prevention of negative impacts on consumers is far better than correction or remedy, and the best way to prevent negative impacts is through having a robust and nationally recognised competence scheme. This will support the whole renewable heat sector, not just the non-domestic market.

Whatever the policy framework going forward, with the commitment to decarbonising heat that is set in the Climate Change Act as well as current policy, we know that there has to be an order of magnitude or more increase in installation capacity for renewable heat, and that the largest share of this increase will be a growth in the market for heat pumps.

### **Proposals to introduce a maintenance standard on biomass installations**

*(no question)*

We agree with the proposal to introduce a maintenance standard for biomass installations, in order to limit negative impacts on air quality. Public funds should not be used to support systems which hinder government's environmental and public health objectives, including air quality ones.

CIBSE would be happy to support government once they start working on such a standard.

### **Proposals to reduce monitoring and reporting requirements**

*Q43 to Q50:*

*43. Do you agree with the government's approach to remove quarterly and monthly NDRHI degression publications? Yes/No*

*44. If you answered No to question 43 please expand.*

*45. Do you agree with the government's new approach to NDRHI publications set out above? Yes/No*

*46. If you answered No to question 45, please expand.*

*47. Is there any additional data you think should be made available publicly as part of this publication? Yes/No*

*48. If you answered Yes to question 47, please expand.*

*49. Do you agree with the decision to no longer mandate the scheme administrator to publish quarterly and annual reports for the NDRHI? Yes/No*

*50. If you answered No to question 49, please expand*

We do NOT agree with the proposal to reduce reporting requirements on the non-domestic RHI. We do not understand how making these changes will help the

Department satisfactorily to monitor scheme performance and manage costs and reduce fraud, and that they appear to run counter to the recommendations of the NAO. We believe that the NAO should be consulted on these changes as a matter of urgency.

Monitoring the scheme can provide valuable information not only on the number and capacity of new installations, but also on the **outcomes** from the installations over time, even after closure to new applicants.

We strongly recommend that annual and quarterly reports be maintained, and that some resources remain available for data analysis. CIBSE would welcome a discussion with BEIS and Ofgem on how to increase value from the data; for example: variations in heat outputs could reflect sensitivity to variations of energy prices; they could help gather lessons on the performance of systems over time (e.g. reduced performance related to refrigerant leakage or to changes in ground or water temperature in heat-extraction-only systems).

The non-domestic RHI stock of installations represents a potentially very valuable source of data to gather lessons and inform large-scale deployment. **The ambition should be to make more and better use of the data, not less, in order to obtain greater value from the existing investments and from future support schemes**