



10th December 2012

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Chief Executive & Secretary
Stephen Matthews

Dear RHI Team,

Consultation reference: URN 12D/330: Renewable Heat Incentive - Consultation on proposals for a domestic scheme URN 12D/334 – extension of non-domestic scheme

I am writing on behalf of the Chartered Institution of Building Services Engineers (CIBSE), the primary professional body for the engineers who design, install and operate the energy using systems, both mechanical and electrical, which are used in buildings. CIBSE is one of the leading global professional organisations for building performance related knowledge and a pioneer in responding to the threat of climate change. It publishes numerous Professional Guides and other titles setting out best practice in support of the industry.

The Institution is the primary source of professional guidance for the building services sector on the design and installation of energy efficient building services systems to deliver healthy and effective building performance. CIBSE began to develop codes specifically intended to reduce energy consumption in the early 1980s, in response to the energy crises of that time. CIBSE is now at the forefront of efforts to reduce carbon emissions from our building stock.

CIBSE is pleased to respond to DECC's invitation to respond to the consultations on Government proposals for a renewable heat incentive scheme for the domestic sector, and extension of the non-domestic scheme. The attached paper on the domestic proposals focuses on the key issues from CIBSE's perspective, which we trust will assist the Department in its further deliberations over the domestic scheme. We have also addressed the specific consultation questions, and our responses are detailed in Appendix 1 to the paper. There is some duplication between the paper and the Appendix so as to answer all the consultation questions raised by DECC fully. I also attach a short paper on the non-domestic extension and answers to selected questions.

If you have any questions about our response please do not hesitate to contact me.

Yours sincerely,

Dr Hywel Davies
CIBSE Technical Director

**DECC consultation reference: URN 12D/334:
Renewable Heat Incentive –
Consultation on proposals for expanding support in the non
domestic RHI scheme**

A paper from CIBSE

Introduction

1.1 The Chartered Institution of Building Services Engineers is the professional body that exists to:

'support the Science, Art and Practice of building services engineering, by providing our members and the public with first class information'

1.2 CIBSE members are the engineers who design, install, operate, maintain and refurbish the energy using systems installed in buildings, and will be responsible for a number of the installations already covered by the non-domestic RHI scheme.

1.3 As an Institution CIBSE publishes Guidance and Codes which provide best practice advice and are internationally recognised as authoritative. The CIBSE Knowledge Portal, which makes our Guidance available online to all CIBSE members, is the leading systematic engineering resource for the building services sector. Over the last year it has been accessed over 100,000 times, and is used regularly by our members to access the latest guidance material for the profession. Currently we have users in over 160 countries worldwide, demonstrating the world leading position of UK engineering expertise in this field.

1.4 CIBSE is pleased to respond to DECC's invitation to respond to the consultation on the Government's proposals for extending the Renewable Heat Incentive scheme for the non-domestic sector. In addition to responding to selected questions posed by DECC, CIBSE has prepared this paper to raise an issue related to the RHI which it believes is not addressed in the current arrangements or the proposed extension, but which does address a topic raised in the Electricity Demand Reduction consultation, and which appears to be something of an anomaly in the current RHI arrangements.

1.5 CIBSE's response to those questions posed by the Department on which we feel we can usefully respond is attached as Appendix 1 to this document.

2. Waste heat as a renewable heat source.

2.1 In our discussions with CIBSE members and the companies in which they work, our attention has been drawn to an apparent anomaly in the current RHI arrangements.

2.2 One technology which is now starting to be applied, with impressive results, is the use of waste heat from refrigeration systems serving cold storage / freezer areas in supermarkets and distribution warehouses to heat the buildings. In its simplest form this is heat recovery via a mechanical system, and is neither novel nor renewable.

2.3 However, when this is combined with a fast developing technology known as Below Ground Thermal Storage, which stores energy in the ground formation below the site using boreholes, it is possible to achieve significant carbon savings. Initial results from early pilots suggest that by using a combination of the two technologies, it is possible to reduce carbon emissions from new buildings by more than 40% below the target levels set by the current Building Regulations. The ability to store the waste heat is essential to this process.

2.4 This approach obviously comes at a price, and most companies will only make the additional investment if the payback periods can be kept to a reasonable commercial level.

2.5 Clearly the heat being used is not renewable, but it is otherwise going into the atmosphere, and further fuel is used to generate the heat required in its place. However, air to air heat pumps use fossil fuel to do the pumping, and they are being proposed for inclusion in the RHI. The ground stored waste heat system is using a combination of water source heat pumps (a qualifying technology) in combination with the refrigeration waste heat recovery, but the current guidelines appear to exclude this approach from support under RHI.

2.6 CIBSE therefore proposes that DECC either clarify the status of this approach under the current scheme, which would be ideal, or urgently considers adding it. The former approach would appear to be preferable, especially as it could be adopted by allowing the GSHP installation to be adopted by the scheme. The source of the heat into the ground is surely not an issue – nobody is seriously going to use fossil fuels to heat the ground to get RHI from a GSHP, unless they are using waste heat that would otherwise be exhausted to air.

2.7 CIBSE would be very happy to facilitate further discussions on this issue if requested by DECC.

Appendix 1: CIBSE response to selected questions on expanding the non-domestic RHI scheme - URN 12D/334

1. Do you agree that the reversible air to air heat market is sufficiently strong that no RHI support is required? Yes, based on the evidence presented support should be focussed elsewhere.

2. Do you think that heating only air to air heat pumps should be supported by the RHI? As the consultation notes, this is not without problems. An unintended but perhaps very predictable consequence of support is likely to be a booming market in retrofitting of the reversible elements to a heating only heat pump, and there will be no reasonable way to prevent this gaming. Unless heating only air to air heat pumps are excluded.

6. Do you think we should use a deeming or metering approach to determine the RHI payment for air to air heat pumps, or is there an alternative method that you can suggest? This is a slippery slope. At present non domestic RHI is payable against metered data. We are aware of the difficulties that have been encountered in getting the metering correctly installed and commissioned. Moving to deeming for any of the non domestic RHI will create a precedent and lead to pressure to deem more widely. As well as losing an element of payment for real outcomes, this will also lose a very significant element of practical evidence about actual performance of these systems in practice. This in turns leads to a shortfall in evidence on which to base future policy development decisions. CIBSE believes that it would be very unfortunate to adopt a demming approach for the non-domestic RHI. If metering becomes a significant overhead, then one wonders why we are supporting the installation in the first place, since it cannot be that expensive.

32. Do you think that we should be consistent with the domestic RHI and introduce a requirement based on 'green ticks' for small scale district heating networks? Yes, without any question or argument. It cannot be rational or proper use of taxpayers money to do otherwise. The most cost effective way to reduce energy demand, fuel bills and carbon emissions is to use what is used more efficiently.

37. Do you agree that we should require energy efficiency measures to be installed before the renewable heating system is able to receive RHI payments? If not, what do you propose? Absolutely, see previous answer. And apply a time limit after which they are ineligible, and give the money to those who are taking energy efficiency seriously.

38. Do you agree that we should allow a range of energy efficiency assessment methodologies to prove a minimum standard of energy efficiency has been met? Yes. The focus should be on the competence of the assessor, and ensuring that what they do is done effectively to an appropriate industry standard, appropriate to the end use and client need. The statutory tools – EPCs and DECAs may not be appropriate. There are standard for energy auditing, and a competent professional engineer with experience in this sector will be well able to produce a suitably detailed report. BREEAM is not really appropriate. If BREEAM is used, then why not LEED, the USGBC equivalent and is already used in London by US multinationals.

39. Can you provide any views or evidence as to whether these requirements would act as too significant a barrier to the uptake of renewable heat? They should not be. There are additional benefits to this assessment which go outside the scope of RHI.

