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To Lord Marland of Odstock,
Department of Energy and Climate Change

Andrew Stunell MP
Department of Communities and Local Government

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Improving the Energy Performance of Buildings Regime Response by the Chartered Institution of Building Services Engineers

This response to the joint letter from Lord Marland and Andrew Stunell MP seeking views on opportunities to improve the implementation of the Energy Performance of Buildings regime is submitted by the Chartered Institution of Building Services Engineers (CIBSE). CIBSE is the learned and professional body for building services engineers, with a global membership of almost 20,000. The Institution exists to 'support the Science, Art and Practice of building services engineering, by providing our members and the public with first class information and education services and promoting the spirit of fellowship which guides our work.'

CIBSE set standards for building services engineering in the UK, publishing the CIBSE Guide, Commissioning Codes and other guidance material which are recognised internationally as authoritative, and sets criteria for best practice in the provision of energy using systems in buildings.

Buildings account for almost 50% of UK carbon emissions. Whilst the systems which heat, ventilate, cool and power everything within the building are largely responsible for these emissions, innovative services design and operation can dramatically improve their energy efficiency. Our members design and create the most environmentally friendly systems in many major projects across the globe.

Whilst many building services engineers design energy using systems for buildings, others have a professional interest in their operation. Facilities managers are responsible for day to day running of buildings, and seek ways to improve their energy performance and reduce waste. Many CIBSE members are accredited energy assessors, and a number have contributed to the preparation of this response. Other CIBSE members have contributed to the preparation of the following response.

CIBSE is also an active partner in the CarbonBuzz project. Judit Kimpian of Aedas Architects has submitted a separate response to the consultation, which CIBSE has contributed to and endorses. However, there are a number of additional issues which we raise below which are of a more strategic nature, or are related to CIBSE's experience of running CIBSE Certification, which is a UKAS accredited energy assessor accreditation scheme.

CIBSE has been actively involved in the implementation of the EPBD since it was adopted in 2002, participating in the development of the standards, training and tools for energy assessors and air conditioning inspectors. We are therefore pleased to offer our contribution to this review, and have endeavoured to provide our contributions in response to the six questions set out in the joint letter.

a) format, content, accessibility and coverage of EPCs and DEC.

Format. Certificate design is driven by the familiar A-G graphic, which we have always supported. The additional information on certificates was the subject of extensive consultation prior to the original introduction and was also the subject of consumer research and focus groups. We believe that the format and content is broadly sound, and that unless there is compelling evidence that the format and content is a serious cause of misunderstanding, then the certificates should not be changed.

Content. The DEC contains a small table of technical data in the lower left hand corner. There would be technical benefits from making the technical table from which this is derived more readily accessible to potential users of that information. CIBSE and others argued for this information to be made more readily available prior to the introduction of DEC. We continue to believe that this information has value and should be more readily accessible, especially to those seeking to recommend specific improvement measures for a particular building.

Accessibility. Access to certificates has been a matter of considerable debate for some time. For a variety of reasons implementation of the EPBD was led by the domestic sector, and the non-domestic sector was required to adopt patterns developed for the domestic market, for reasons of expediency. Although this was questioned at the time, it was decided to pursue this approach. This has created two difficulties relating to accessibility of certificates. Due to welcome concerns about confidentiality, access to domestic EPCs is strictly controlled. That is understandable and CIBSE supports that control for domestic properties. However, the EPB Regulations carry across the same restrictions to non domestic EPCs and DEC. We believe that there is a significant opportunity to enhance the value of EPCs and DEC in the non domestic sector by making them much more accessible.

CIBSE welcomes the commitment in the government's response to the consultation on "Making Better Use of Energy Performance Certificates and Data" to make information more widely available. Whilst we understand the requirement for primary legislation in the domestic sector, we believe that an amendment to regulation 33 of the Energy Performance of Buildings Regulations, to restrict the scope of that regulation to domestic EPCs, would be a useful, simple and very immediate way to release more information from existing certificates.

Regulation 33 is already compromised in the case of DEC, which are required to be on public display in a prominent place by Regulation 16. Yet the very same information, encoded as a pdf file and lodged on the Landmark database, is then subject to similar restrictions on access as a domestic EPC and can only be disclosed under very restricted circumstances permitted under Regulation 33. The regulations are internally inconsistent, and there would be simplification and benefit from revision of Regulation 33.

DECs need to become as fully accessible in digital format on the register as they are in physical form in buildings. Some more enlightened local councils such as Torbay, Universities such as Leicester and DECC itself already make the information on their DEC available on the web. It is faintly ridiculous, but all three bodies are acting to publicise their DEC in a manner which would be contravening Regulation 33 if the national register made the information available.

Wider access to DEC would immediately enable NGOs and the public to search for certificates and to ask awkward questions of those public bodies that are currently flouting the law. We give evidence of the scale of public sector non-compliance with DEC in our answer to question e) below.

The joint letter refers to EPCs and DEC, but not to either the Recommendations Report that accompanies the EPC, or to the Advisory Report which must be produced in association with the DEC at least once every seven years. CIBSE does have concerns about the content, format and accessibility of these reports.

For EPCs there is a concern that assessors may not be rigorous enough when editing default recommendations in the report generation software, and may not adequately use the facility to add recommendations where appropriate. Market research carried out by CIBSE suggests that as few as 20% of those who receive a recommendations report have any intention of acting on the recommendations. Reasons for not acting on the recommendations include:

- Poor or inappropriate recommendations
- Recommendation of measures unlikely to yield savings to provide a return on investment
- Lack of confidence in the quality of the reports

Inability of report providers to install recommended measures
Concern about recommendations made to generate work – “double glazing sales syndrome”
Lack of standardised repair solutions.

There is additional concern with the Advisory Reports that accompany DEC's, that they are not sufficiently robust to provide an adequate basis for any decisions to invest in improvements. This is discussed further under item c) below.

b) Effectiveness of EPC and DEC assessments and air conditioning inspections.

If the approved and documented processes are followed properly then they should deliver the desired outcome. However, although the standard process and methodology are adequate, energy assessors do not always follow them in detail because the price for doing an EPC or DEC is too low to enable them to follow the procedures in detail. EPCs are seen as a compliance task and sought on a lowest price basis. DEC's are required of the public sector, who are generally expected to procure on price, not on quality and adherence to the DCLG requirements and guidelines.

As noted above, the Advisory Report which accompanies a DEC is an inadequate basis for energy saving investment decisions. Currently a detailed building inspection leading to a tender specification, quotation and a financial assessment are generally needed as the next step. This means that the Advisory Report is of limited value as currently produced. Similar concerns are expressed about the EPC recommendations report.

The quality of the recommendations report has been seriously questioned. It is viewed as “so generic that it is almost worthless as it stands”. One contributor wrote “out of the hundreds of EPC's we have procured I am not aware of any improvements having been made as a result of this report alone.” He explained that “In order that we can fully assess the improvement potential on certain properties, we now have an agreement in place with suppliers for an "enhanced" report which shows the improved rating achievable by undertaking certain works, together with the return on investment. This is completed at little extra cost and gives much more useful information, with a greater incentive to carry out the improvements.”

Another energy assessor who contributed to this response wrote “As a result, nobody (in my 300 commercial EPCs) has asked to discuss the recommendations I have made.” This is considered further under item c) below.

With regard to air conditioning inspections, these have been found to be more useful in terms of assessing the improvements that can be made across the spectrum of operation, maintenance, and investment in improvements to the design, as was found at Eland House itself. The drawback with all the recommendations produced under the EPB Regulations is that they can be ignored, which is the general experience of air conditioning inspectors and energy assessors alike. This issue is discussed further under item f) below.

c) Adequacy of the existing qualification and training arrangements.

There are currently two routes to become an accredited energy assessor. For those with appropriate prior experience, the ‘APEL’ route requires them to provide evidence of their qualifications and experience in the specific field of energy certification or air conditioning inspection. There is a minimum period of prior practice required in order to be accredited by the APEL route, making it a competence plus time served requirement.

The alternative is to follow the qualifications route, and to obtain a nationally recognised “qualification” in energy certification or air conditioning inspection. The requirements for those obtaining such qualifications are set out in national occupational standards, which are competence based and which must be met by candidates. However, there is no requirement for ANY prior practical experience for accreditation via the qualifications route. In the case of the air conditioning inspection market, this means that whilst it requires two years full time equivalent prior experience in order to be considered to be accredited via APEL, someone who is a new entrant to the industry can follow the qualification route and, if they meet the competence requirements, be accredited in as little as six months, although they may have very limited practical experience of working on air conditioning systems on site. This is not a level playing field, and it discriminates against experienced industry practitioners.

Moreover, these newly “qualified” assessors generally work at a lower level and cost less than those with more experience. The inevitable consequence of this is a variation on Gresham's Law, that bad

money drives out good. In this case, lower cost, less experienced air conditioning assessors will tend to win work at the expense of the more experienced. This militates against more competent and experienced engineers becoming air conditioning assessors, as they find themselves competing with cheaper lower cost operators, who provide basic compliance, but struggle to offer the level of advice and recommendations needed to support action to improve the system.

This in turn generates a lack of confidence in the reports in general, which means that those who are getting them done, and they are a very small minority, are tending to use low cost operators. One contributor to our response cited the example of an air conditioning inspection of a complex system in a leisure centre being undertaken for £250. For a well qualified engineer that represents no more than half a day's work, which is not enough to undertake a proper inspection following the approved methodology. Such examples breed cynicism and undermine confidence in the whole regime.

In addition, there is widespread unease amongst employers and their representative bodies about the quality of the training being provided for these qualifications. These concerns are not conducive to the provision of greater numbers of accredited energy assessors and air conditioning inspectors.

Some assessors raised questions about the quality assurance of training that is provided to enable people to become accredited for the production of EPCs, DEC's and air conditioning inspections, and proposed that there should be some central checking of the quality and accuracy of training provision.

Some schemes offer accreditation and also provide a consultancy service, using their own accredited assessors. Some contributors to our response have questioned the safeguards against conflict of interest in this case, where it is hardly perceived to be in the interests of the accreditation scheme to find fault in certificates which it was contracted to provide to the client.

d) The effectiveness of the current QA processes.

The current QA arrangements could be improved in a number of ways. DCLG consulted on the arrangements for Competent Persons schemes in December 2009, and CIBSE responded in March 2010. We made the proposal then, in relation both to Competent Persons schemes and Energy Certification and Accreditation schemes, that UKAS accreditation should be used. Our detailed response to question 10 of the consultation was as follows:

"As already indicated, CIBSE proposes that the whole process of evaluation and monitoring of schemes be undertaken by UKAS.

It is agreed that UKAS accreditation should be required for monitoring schemes' performance but if a scheme is going to be accredited by UKAS for this element of its standards and performance then there are many other elements that could be administered by UKAS. These are set out in the Appendix to this response already mentioned in Q1 and Q3.

UKAS was recently established legally as the UK's National Assessment Body by Statutory Instrument, thus fulfilling the requirement of EC Regulation 765/80, and its memorandum of understanding revised to reflect its new role as the National Accreditation Body.

Paragraph 9 of the MoU relates to the support to be offered by government, as follows:

"9. Support from Government

9.1 The Secretary of State will use appropriate means to support UKAS in the achievement of its objectives. In particular, the Secretary of State will encourage conformity assessment bodies to seek accreditation, including those upon whose services the Government relies, both for procurement and regulatory purposes. The Secretary of State will encourage other purchasing organisations in both the public and private sectors to support these unified arrangements."

In the light the revised MoU, and also of the December 2009 Government announcement of a new commitment to cut the costs of regulation by a further £6.5 billion by 2015, we believe that CLG should, as a matter of policy, seek to adopt UKAS as the accreditation body for Competent Persons schemes.

Assigning responsibility to UKAS will free up CLG from policing general scheme operation requirements and allow officers to concentrate on the areas that need to be governed by CLG, such as establishing the technical competences required and selecting appropriate NOS.

UKAS accreditation would introduce a common standard across all schemes, and would transfer the costs of this activity to schemes, leading to savings by CLG.

CIBSE re-iterates its support for UKAS accreditation of all accreditation schemes. Not only would this relieve government of a considerable task, and the taxpayer of the cost, but it would remove the double cost burden on those schemes that are already UKAS accredited, and would introduce a level playing field for all schemes. This would be funded entirely by the schemes themselves.

A disparity in the current QA arrangements, which we believe imposes a significant cost burden, relates to EPCs for major new buildings. A minimum of four certificates must be audited for each assessor lodging fewer than ten EPCs in a year. This requires the audit of almost every single certificate ever produced by many of our most senior and knowledgeable chartered engineers.

To give an example, under these rules, those of our world leading consultancies who accredit very senior engineers to produce energy certificates, in order to provide a complete service to their clients, are penalised for providing a one stop service, purely because those engineers focus on delivering one or two top quality buildings at a time, rather than specialising in mass provision of energy certificates. This creates a disproportionate burden both on the scheme and on those assessors, their employers and their clients, at a time when government seeks to reduce regulatory burdens. Various high profile London office schemes are about to restart on site, including the Pinnacle, the Leadenhall building, the "Cheesegrater" and the "Walkie Talkie", as well as the Shard and Heron Tower which are well advanced. In most cases the EPC will be produced by a senior engineer of many years experience, who has worked almost exclusively on the project.

But they will fall under the "fewer than ten" rule, and it may be that these prestige projects will be one of very few EPCs lodged by that engineer. Due to the current rules, they will all have to be QA'd, at a very considerable cost. We question the value of this approach. The risks of poor quality EPCs are not to be found in a handful of "celebrity buildings", where the EPC will be a matter of public scrutiny (whatever Regulation 33 says!) due to corporate social responsibility and disclosure considerations, and because these buildings will be entered for industry awards which will insist on seeing the EPCs. Requiring these buildings to undertake a Part L carbon emissions calculation, then an EPC, and then to recalculate each EPC is not a proportionate or cost effective regulatory regime, and it should be reviewed as a matter of urgency.

An obvious solution would be to separate the accreditation of assessors for new buildings from those working on existing buildings, and to ensure that those working on prestige buildings requiring level 5 assessors are subject to a more realistic, less burdensome and more proportionate QA regime.

There is a further perverse outcome of the recent changes to the QA requirements. All EPCs are required to be within 10% of the "correct" asset rating calculated by the scheme QA assessor. So a poorly rated building with an asset rating of 137, an F rating, could really be rated 151, a G rating, but the certificate is within the 10% tolerance band. Equally, it could be a 124 rating – again, within 10% but in the E band. But these results are acceptable under the current QA regime.

A highly rated building, on the other hand, having an asset rating of 10, requires the scheme QA assessor to give a rating of between 9 and 11 for the certificate to be within 10% and to pass the QA audit!! It makes no difference to the grade if it scores 12, or 8, yet the certificate "fails", and further QA is required on other certificates produced by the assessor. Even more difficult to justify, the Asset Rating of 10 must be recalculated and a new EPC presented to the client. Once again, an accreditation scheme which attracts highly rated engineers working on leading edge buildings runs the risk of appearing to be failing to ensure quality due to this perverse QA metric. This is not a satisfactory or proportionate outcome, and should be reviewed.

We trust that the new practical QA arrangements will not just be desk based reviews of certificates, but will involve visiting assessors to review their processes and to assure that they have the evidence that they are in practice meeting the DCLG rules, undertaking site visits whenever required, employing data gatherers appropriately and keeping accurate records of all work undertaken. We believe that it is essential for these to be checked in a reasonable sample of assessors to ensure that they are adequately addressed. These matters cannot realistically be assessed by desk audits.

A further issue has arisen recently. Where an assessor, who is accredited as an individual, has undertaken work as part of his duties for an employer, the records and data for that certificate belong to the employer. If the employee then changes employer, they no longer have any legal access to the records or data or calculations. This can create a problem with QA. If the assessor is chosen for an audit, then the rules may require the scheme to audit a certificate produced whilst employed by the

previous employer. The assessor and the scheme have no contractual access to the records, data or calculations held by that employer. There is no legal duty on the employer to co-operate. Without changes to the regulations on this matter, probably by adding a third case under Regulation 50, duty to co-operate, which would apply to anyone holding records, data or calculations relating to an EPC or DEC lodged by an employee or a previous employee, this problem cannot be resolved, and schemes cannot in these instances comply with the QA scheme operating requirements. Indeed, it is not reasonable to expect them to do so without a legal right of access to the information needed.

e) How effective are the current provisions for ensuring compliance?

CIBSE believes that there are several opportunities to improve. We understand that following recent initiatives to improve central government energy efficiency in response to the Prime Minister's 10% goal, compliance by central departments is increasing. Other government departments outside the centre are not doing so well: when CIBSE reviewed the first 45,000 DECs to be produced, we calculated that this was about 26,000 short of the expected total based on the figures DCLG used in the impact assessment for Article 7(3) of the EPBD. We have further reason to believe that fewer than 5% of air conditioning certificates are there.

Enforcement of EPCs, DECs and AC inspections falls to Trading Standards. We acknowledge that TSOs are responsible for scores of regulations. We agree that rogue traders, including "builders" and auto traders, loan sharks, counterfeit goods and illegal doorstep selling practices are all matters that we want to see TSOs taking a firm line to reduce. CIBSE is very aware that most TSOs do not have expertise in the building sector, and that air conditioning is not a matter with which they have any particular experience. We stress that these are observations, and not criticisms.

However, we believe that the allocation of this enforcement duty to TSOs needs to be reviewed. For air conditioning system inspections, we are aware that all other white goods labelling schemes are enforced by the National Measurement Office. We therefore ask why they should not enforce the ac inspections requirements? They could also provide the QA activity for AC inspections at accreditation scheme level, if that is not to be covered by mandatory UKAS accreditation for all schemes.

For DECs, at present the responsibility lies wholly in the public sector. We believe that central departments could take further steps to inform public sector occupiers of their duties. Open access to the DEC register would quickly enable NGOs and ordinary voters to see whether their local councils buildings, schools and hospitals were compliant, and to flag the matter if they are not. There is a concern that TSOs do not feel that they can take enforcement action against their own authority. This requires legal review, and, if true, suggests a further reason why an alternative regime is required.

For EPCs there ought to be greater compliance because they are associated with legal transactions. Legal professionals should be aware of the requirement and should be advising clients to obtain EPCs. We believe that DCLG could work with the Law Society to make legal professionals aware of the requirements. Again, access to the database for non domestic properties would allow interested parties to see EPCs, which is likely to drive compliance as well as interest in the rating itself.

Finally, several contributors pointed out the inadequacy of the penalties. For an ac inspection it is, simply, cheaper to risk the fine than to get an inspection. The penalties for EPCs and DECs are equally low. This is in quite a contrast to the £5,000 fine for non registration under the CRC.

CIBSE proposes a review of the penalties under the EPB Regulations. Whilst we understand governments wish to reduce regulatory burdens, and to minimise costs to industry, it is equally important that responsible businesses that do comply do not see irresponsible competitors gaining unfair advantages by not complying. Encouragement and a light touch approach are appropriate to build compliance and bring the majority along, but without robust penalties for those who wilfully refuse to comply, there will always be an element who will cheat. They need to be faced with serious penalties for doing so, to tip the balance towards compliance. Linking penalties to the value of the property, or to business rates, may be an appropriate way to do this.

f) Scope for making better use of DECs and EPCs

There is considerable scope to better use DECs, EPCs and air conditioning inspection reports. EPCs are designed to allow owners and occupiers to compare the intrinsic efficiency of the buildings they choose between, whether new, old, full or empty. Hence they use a standard theoretical calculation method to rate the potential performance of the fabric and fixed services they will buy or rent. **EPCs aim to motivate owners to make capital investments.**

There is immediate scope for the public sector to adopt a much firmer stance on the energy efficiency of the buildings it buys or rents. There has been a commitment to procure buildings in the top quartile of environmental performance for some time. If Cabinet Office were to make it clear that, in future, this commitment would be met unless there were exceptional circumstances, ideally requiring approval by a Minister or very senior official, that would send a clear signal to all aspiring public sector landlords.

Furthermore, such a step, allied to rigorous energy management and use of the DEC in the occupied building would reduce emissions and energy consumption, in line with the Prime Minister's commitment for central government.

The mechanism for greater energy and carbon emissions savings in the private sector has to start with greater enforcement action for EPCs in the commercial market. There would be significant value in greater enforcement activity allied with one or two well publicised enforcement actions "pour encourager les autres". This approach has already been very effective in Northern Ireland, where a programme of "light touch" visits to property agents led to a significant upturn in certification activity. DECs complement EPCs by making actual energy and carbon performance in use visible and actionable. DECs aim to motivate occupiers to reduce energy demand using all measures available, e.g. behaviour, equipment and appliance purchases, control, maintenance and management; and not just investment. There is a need for more transparency between the respective underpinnings of EPCs and DECs, which CIBSE is currently working on through its energy benchmarking group, the Technology Strategy Board funded 'CarbonBuzz' project, and ongoing revisions to CIBSE TM 22, which is a tool for energy managers.

DECs are required to be renewed annually. In order to stimulate behavioural change by users, the Certificate includes three year rolling bar charts showing past performance as well as current energy use. Some Ministries have already demonstrated what can be achieved in their own buildings. For example, DECC's rented office in Whitehall Place was built in the 1950s, sold, and renovated in 2003-04 with fan-coil air-conditioning. Largely through control and management measures, its DEC has improved from G in 2008 to E in 2010, in spite of an increase in workstation numbers from 500 to 800. There is an urgent need for government to promote such examples throughout the estate, and to support and encourage those who seek to emulate them.

The most immediate measure that could be taken would be for the Cabinet Office to require a list of buildings occupied by ALL public bodies, along with details of the DECs they have obtained since October 2008. This would expose non compliance quickly, and enable those not in possession of DECs to be identified, made aware of their offence, and encouraged to comply without further delay. Since DECs provide measured energy consumption and carbon emissions data, they can also be used to support two other key policy measures.

They have the potential to be used to support the Carbon Reduction Commitment, in a revised format, and also to be used to underpin the non-domestic Green Deal. In both cases there is a need for an accurate calculation of energy used and actual emissions. The DEC methodology provides both. It can be used to calculate the emissions at an individual tenancy level for CRC, and can be used to calculate current bills, as a baseline for calculating the likely energy savings under the Green Deal for the purposes of deciding whether the property meets the proposed "Golden Rule" of the Green Deal, that savings will be sufficient to repay the Green Deal finance package.

We believe that these uses of the DEC methodology have the merits of "reusing" a regulatory measure to support three complementary policies, reducing burdens on industry by using the same "tool", the DEC, several times. It also has the benefit that, subject to the caveats set out above, there is already a skilled pool of accredited assessors ready to undertake the work, and the methodology is already established, which is a great benefit for both CRC and Green Deal, which are to be introduced in relatively challenging timescales.

This would also address the concern in the property sector at the multiplicity of "green metrics". CIBSE, the UK Green Building Council, the British Council for Offices, the Usable Buildings Trust, the Better Buildings Partnership, British Property Federation and others have had extensive recent discussions around the wider use of Display Energy Certificates and the role of the DEC methodology in consolidating EPBD, CRC and Green Deal energy measurements around this single tool, and there is now considerable consensus around this idea.

A further benefit of the DEC methodology is that it would enable targeting of poorly performing buildings and their occupiers should that be required.

We believe that these steps are also consistent with the policy directions set out in the response to the "Making Better Use" consultation, and with the recommendations of the Construction IGT.

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