



### Area 3 - Responsible Architecture

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European Voluntary Scheme

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ACE Response to the draft documentation issued for VCS workshop (14.01.2016)

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#### ❖ Introduction

ACE believes that the European Common Voluntary Certification Scheme for non-residential buildings has the potential to make a major impact on EU-wide energy reporting. ACE is also aware that this scheme may form a broader set of resource efficiency indicators currently being developed by DG Grow, DG Environment and DG Energy. It is therefore essential that the creation of this Certification Scheme builds on the lessons learned from EU studies of the unintended consequences of EPBD and addresses the issue of the energy performance gap by acknowledging the importance of disclosing operational energy consumption data alongside an asset rating.

#### ❖ Background

ACE appreciates the hard work already done at the EU level on harmonisation. Our key observation on the proposals circulated for the meeting held in Paris on 14<sup>th</sup> January 2016, is that the measurement and verification (M&V) of energy performance is a key point that needs to be incorporated into the proposals. For the voluntary certification scheme to be embraced by its target market it needs to overcome the credibility issues currently associated with energy certification. EPCs are currently widely perceived as irrelevant to actual performance and this creates a barrier for continuous improvement from achieved performance because it does not offer the mechanism for feedback from buildings in use.

No design profession can afford to forego in-use validation if it wants to improve its product and productivity. Because of the fragmented nature of the construction sector it is widely acknowledged that EU-wide reporting incentives are needed to establish such a feedback loop.

#### ❖ Recommendations

Ideally, ACE would like to see a harmonised operational rating scheme that reports operational rating derived from measured performance alongside the asset rating using same baselines and scaling factors. This can illustrate the extent of the energy performance gap and the saving potential.

Based on the latest discussions and comments made in the VCS workshop, we gather that development and integration of a robust operational rating scheme might be perceived a step too far at this stage. An intermediate step, however, would be to validate the calculation models used to derive asset ratings with measured performance. This can be easily integrated into the voluntary certification scheme by providing an option on the certificate to indicate its completion (e.g. a check box to tick if the calculation had been validated with measured performance) alongside operational energy use figures.

The method for validating the calculation models with measured performance is underpinned by EN 15603 'Energy performance of buildings – Overall energy use and definition of energy ratings (Section 9, Validated building calculation model). Although verification/validation of asset ratings is not mandatory under the EPBD, the methodology for this is already formulated in this standard.

An asset rating should give an option for 'validation' of energy models with measured performance in accordance with EN 15603. This way the asset rating will be derived from a computer model calibrated with measured performance. The asset rating would still be based on calculation assuming default/standardised operating conditions, but the base model is calibrated with actual operation to



ensure the model is robust. This voluntary option can tackle a number of issues related to modelling accuracy and is completely in line with the European standards.

In addition we recommend that the future development of the voluntary certification scheme builds on the successes and lessons learned by the Australian NABERS, the US Energy Star schemes and ASHRAE bEQ certification scheme. It is notable that the bEQ scheme was inspired by the certification schemes developed under the EPBD. However, it incorporates both asset ratings and operational ratings and shows these ratings on the same scale and certificate (Exhibit A). It is also a voluntary and market-driven scheme similar to what is now aimed for the European VCS.

Development and harmonisation of robust operational benchmarks for non-domestic buildings across the EU can pave the way for integration of operational ratings in future. Disclosing operational energy use data in VCS can lead to accumulation of this data and help develop robust benchmarks in due course.

#### ❖ Conclusion

A harmonised EPC scheme at European level (same scale and format) should include 'a check box' which indicates whether the calculation model used to derive the asset rating has been validated with measured performance alongside the reported operational energy use data by fuel. This could easily be integrated to the existing plans for the VCS. It would also be a major step towards improving the credibility of the EPBD and the quality of EPCs and provide market incentives for achieving actual performance improvements. This in turn would bring wider benefits for owners and tenants and allow the construction industry to improve its productivity by targeting efficiency measures that are proven to bring measurable building performance benefits.

ACE believes that this scheme is the simplest way to take advantage of a major opportunity to address some unintended consequences of the current EPBD and support the role of architecture in achieving better performing buildings.

Dr Judit Kimpian  
Chair of ACE Environment and Sustainable Architecture Work Group  
with input from Dr Esfand Burman, Research Fellow at University College London



**Exhibit A: ASHRAE building Energy Quotients**

