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Background

The real estate market is characterised by multiple interactions between a wide range of parties across what is typically a long building lifecycle of several decades, and in some cases centuries. The profound social, economic and environmental significance of buildings, together with these lengthy and complex lifecycles, mean that achieving the relatively rapid changes envisaged by the UK’s climate change and other commitments will require carefully crafted and targeted interventions.

With these challenges in mind, the Valuation and Demand Working Group of the Green Construction Board (GCB) commissioned three related studies to consider the role of property policies in helping achieve UK sustainability goals. The studies considered three levels of detail:

- **Strategic** – How can policymakers best intervene in the real estate lifecycle?
- **Sectoral** - Key lessons for successful domestic energy efficiency interventions\(^1\), drawn from a review of policies since the mid-1990s?
- **Specific** - The implications of the planned introduction of minimum energy performance standards for privately rented non-domestic buildings?

This document summarises the findings of research into minimum energy performance standards and was undertaken by Sweett Group, SIAM and Kingston University.

Acknowledgements

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\(^1\) The Green Property Alliance and Green Construction Board also jointly commissioned a similar study focussing on commercial buildings.
Introduction

The Energy Act 2011 requires that, from April 2018, it will be unlawful to let properties which fail to achieve a prescribed minimum energy performance standard (MEPS) until qualifying improvements have been carried out. It is expected that this minimum standard will be an Energy Performance Certificate (EPC) rating of E.

With nearly 75,000 commercial premises (~19% of certified units) having EPC certificates rated F or G, this policy has the potential to have a dramatic impact on levels of investment in the energy efficiency of our existing buildings, see Figure 1. Further, since the policy was first mooted, there has been widespread discussion about its potential implications, with anecdotal reports of transactions being affected and with F or G rated properties being considered ‘risky’ by the market.

MEPS regulations are intended to speed up the rate at which energy efficiency upgrades to inefficient buildings take place. It is likely that it will be successful in doing so, in many parts of the property investment market. MEPS should trigger cost effective investments in a wide range of building types, thereby reducing energy use and associated cost and carbon emissions. These measures will be beneficial for occupiers by reducing their costs and the wider economy and society by stimulating cost effective investment and reducing carbon emissions.

In many locations the costs associated with MEPS regulations will be relatively small as a proportion of the rental and capital values of the property. The results will be optimised when the work is undertaken ‘in-cycle’ as part of more extensive refurbishment or fitting out works.

The exact detail of how MEPS will operate is not yet fully defined. The analysis is therefore based on current expectations of how the detailed regulations will be implemented, namely:

- **Scope** – the regulations will apply to all privately-rented properties with an EPC rating.
- **Threshold** – the minimum standard for energy efficiency will be an EPC rating of E and units with ratings of F or G will be directly affected. Properties with a rating of E might also be affected after 2018 if, on reassessment, the rating falls below this point because of changes in the EPC calculation method or if the minimum standard is raised, e.g. to D.
- **Requirement** – properties failing to achieve the minimum standard will be required to undertake cost effective (see below) improvements to the asset’s performance until it achieves an EPC of at least E.
- **Cost effectiveness** – measures must pay for themselves through the resulting energy cost savings. This may be linked to eligibility for Green Deal finance, i.e. measures must be compliant with the ‘Golden Rule’ where the value of projected energy savings over the life of the measure is greater than the costs of repaying a Green Deal loan over this period.
Implementation – after April 2018, a landlord may not grant a lease on a property failing to achieve the minimum standard of energy efficiency. Properties failing to meet the minimum standard can continue being let if the current tenant refuses permission for the necessary improvements.

Each of the above assumptions is subject to the Government’s consultation on the implementation of MEPS and any subsequent publication of the regulations.

Implications for property owners

The introduction of MEPS is expected to increase awareness of energy-related issues and it is likely that both buyers and potential tenants of poorly-rated units will have greater regard to the potential cost of compliance before committing to transactions. In some circumstances, both the cost of energy and the cost of mandatory energy efficiency improvements will influence market pricing.

Implications are likely to vary with the economic cycle with little or no differential during strong market conditions, but with the potential for value depreciation when demand is lower. Property owners are unlikely to be able to forecast accurately the economic conditions prevailing when they may wish to sell or let a specific asset. Therefore, it is always prudent to assume that a poor energy rating could have an impact on liquidity or value, even if this is not realised in a buoyant market.

Beyond the vagaries of wider market conditions, several building specific issues are important:

- **Scale of cost effective energy savings** – as this influences the nature of the investments required to comply with the regulations.
- **Total cost of cost effective savings** – influencing the total capital expenditure or financing that is required.
- **Significance of obligated compliance costs** - in relation to future rental income (taking void periods into account).
- **Potential for recovery of part or all of the incurred costs**. This study assumed that where an occupant’s total costs are the same or lower they should be prepared to contribute to energy efficiency investments. In practice, decisions will be influenced by market conditions, precedent, their confidence in receiving the predicted energy savings and the nearby presence of other better rated but otherwise comparable properties. It was assumed that landlords would not be able to recover any costs for vacant units.

Five tests were defined to help understand the implications of the policy for commercial properties.

1. How many properties are likely to be affected by the regulations?
2. Is it likely that the EPC rating will be improved through cyclical refurbishment or redevelopment before 2018?
3. Can an F or G rating be cost effectively improved to E or D?
4. Is the capital cost of ‘cost effective measures’ significant?
5. Are landlord liabilities during void periods significant?

As well as considering the above topics the study also considered whether the implications would particularly impact specific locations, property types or market segments.

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2 Landlords are required to make all cost effective investments until the building can receive an EPC rating above the minimum standard. In some cases cost effective investments may be required even though this is insufficient to improve the unit’s rating.
1. How many properties are likely to be affected by the regulations?
Almost 19% (~75,000 certificates) of the analysed certificates are likely to fall below the minimum standard, see Figure 1. A further 17% (~65,000 certificates) are E-rated and could be directly affected either if the threshold is raised after 2018, or as the assessment process is reviewed.

The distribution of ratings in each of the 10 Government regions of England and Wales is broadly consistent indicating that there are “good” and “bad” units in every region. London postcodes have high absolute numbers of E, F and G rated units and these also represent an above average proportion of the overall rated stock. Other towns with a high proportion of E to G rated EPCs have a significant number of historic buildings. However, the greatest variance lies within rather than between postcodes, suggesting that any impacts are likely to be seen at a very local level.

The office sector has the highest proportion of F and G certified units and a large proportion of E’s (Figure 2). In terms of total numbers of units, the retail sector has more F and G certificates.

<table>
<thead>
<tr>
<th>Figure 2 Proportion of EPC ratings by use</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
</tr>
<tr>
<td>80%</td>
</tr>
<tr>
<td>60%</td>
</tr>
<tr>
<td>40%</td>
</tr>
<tr>
<td>20%</td>
</tr>
<tr>
<td>0%</td>
</tr>
<tr>
<td>Retail</td>
</tr>
<tr>
<td>Offices/ B1</td>
</tr>
<tr>
<td>Storage/ distribution</td>
</tr>
<tr>
<td>Pubs/ restaurants</td>
</tr>
<tr>
<td>Industrial</td>
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<tr>
<td>Hotels</td>
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<tr>
<td>Retail Warehouse</td>
</tr>
</tbody>
</table>

\[A\] \[B\] \[C\] \[D\] \[E\] \[F\] \[G\]

2. Is it likely that the EPC rating will be improved through cyclical refurbishment or redevelopment before 2018?
An F or G EPC rating may be a symptom of approaching obsolescence, and it might be expected that resulting redevelopment or refurbishment activity would result in an improvement in energy efficiency. However, there is limited potential in many locations to add sufficient value from refurbishment. This makes it unlikely that many buildings in this position would, in the absence of a regulatory driver, be improved through normal cyclical investment. Rather it is likely that landlords will continue to defer capital investments, including those that might also improve energy efficiency. The introduction of MEPS should therefore speed up the process of improving building energy ratings beyond that otherwise delivered by the market.

For some buildings, most notably retail, where re-letting is commonly accompanied by a new fit-out; the process of re-letting is more likely to trigger work which would upgrade the EPC rating irrespective of a MEPS obligation.

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3 From the Non-domestic EPC register maintained by Landmark Information Group.
3. Can an F or G rating be cost effectively improved to E or D?

The approach to improving a building’s energy rating and the extent to which this can be done cost effectively varies significantly for a wide range of factors. Analysis of 14 archetype buildings representing a range of asset types, conditions and specifications resulted in costed improvement strategies to achieve improve EPC’s of E and D. Costing assumed that the investments were ‘out of cycle’ i.e. the full cost is included rather than the marginal cost above works already planned.

It is possible to make substantial improvements in the energy efficiency of many of the archetypes delivering energy, carbon and operating cost savings. Naturally-ventilated building archetypes could be improved to a D rating cost effectively. These works typically include new lighting, boilers, pumps, power factor correction and, in the case of some industrial units, enhanced insulation. Conversely, it is unlikely that air conditioned offices would be substantially improved by MEPS legislation directly, because cost effective measures are insufficient to increase their ratings.

For some industrial properties, significant energy efficiency measures such as roof and wall insulation are cost effective because of the substantial modelled energy savings. In these cases the capital cost implications of the MEPS policy could be significant.

In all the modelled scenarios, it made more economic and strategic sense to improve the EPC rating to D. Although the costs of so doing are higher, the associated measures deliver significantly greater savings in energy, carbon and associated running costs, whilst also providing some ‘future-proofing’ against changes in the minimum standard. Moving to an E rating and then, later, to D will incur additional disruption and overheads and will be wasteful of embodied carbon.

4. Is the capital cost of ‘cost effective measures’ significant?

For most of the studied building archetypes, the cost of meeting MEPS obligations is less than 12 months’ rent and in some cases considerably less. However, for some industrial buildings, in locations with lower rents, the cost of compliance could be equivalent to two to five years’ rent. Where MEPS obligated works equal several years’ rent, these costs will be material to rent and service charge discussions. In these situations it is imperative that it can be shown that the proposed investment will deliver the projected energy savings for the occupier.

In higher value locations, landlords may choose to make defensive expenditure to improve a building’s rating, as a means of safeguarding their liquidity and value even where this is not obligated by MEPS regulations on the grounds of cost effectiveness.

Older air-conditioned offices cannot be brought up to a D rating even in the highest value locations without costs equivalent to more than 6 months rental income. It might be expected that these properties would only be materially improved when subject to a full redevelopment / refurbishment process. These properties are, in value terms, the most likely to be at risk from MEPS.

5. Are landlord liabilities during void periods significant?

Landlords retain liability for repayments during void periods reducing net income. In most cases the impact is small at 1.5-4% of income, even in the locations with the lowest rents. However, for some industrial buildings in the lowest rent locations and with high void levels, a landlord’s income might be reduced by 10-15%. This is equivalent to 12-18 months’ rent over the repayment period.
The impact of voids is likely to fall most significantly on properties that are already of marginal viability (given their current low rents and high vacancy levels). Although the reduction in rental income from MEPS may not be sufficient in isolation, in some circumstances, it may tip the balance towards a decision to leave a property vacant or to demolish pending future redevelopment.

Conclusions
The minimum energy performance standard is widely expected to be an E rating. However there is both the possibility that this will increase in the future and that the methodology for assessment may be revised and become more stringent. Therefore, in addition to F and G rated properties, some rated E are likely to be affected as they may be deemed ‘riskier’ than better-rated buildings.

For many of the buildings tested, particularly naturally ventilated units, cost effective improvement will enable the building to meet the minimum standard. Where this is the case, the measure should be absorbed by the market. However, this may not be the case for older air conditioned units and some industrials. For the former, the level of obligated expenditure will be limited by the extent of cost effective efficiency measures. However, for some industrial units a combination of low value and significant obligated capital expenditure may mean that the risks imposed by MEPS might reduce the number of buildings available for temporary lettings and accelerate the obsolescence of tertiary stock.

For some of these industrial buildings, the scale of potential investments (e.g. insulation of roofing and walls) needed to comply with MEPS is significant. It is important that compliance models are sufficiently sensitive to only require investments likely to deliver savings in practice. There is little point in incurring significant costs (and embodied carbon) to insulate a building that is not occupied or used in the manner envisaged.

A clear statement from Government on the future evolution of MEPS policy with a timescale for any incremental changes would help owners plan their investment at an earlier stage, or as part of cyclical works, bringing forward the beneficial carbon and cost savings and reducing uncertainty.

Above all, rumours in the market that all F and G rated buildings will need to be improved to at least an E-standard, regardless of cost and that unimproved buildings will be unlettable and therefore without value are inaccurate and largely unfounded. Compliance with the new regulations will be affordable for most property types and, in many circumstances, the existing value of F and G rated buildings will be largely unaffected.