



CREATING VALUE FROM MINIMUM ENERGY EFFICIENCY STANDARDS (MEES)

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How can the property industry and the energy efficiency sector collectively benefit from the new MEES which come into force in April 2018? What strategy could be applied, and are there opportunities for business development in its wake?

Introduction

There are just 481 days until the Government's 'Minimum Energy Performance Standards' (MEES) come into full force on 01 April 2018. The Standards will render 'F' and 'G' EPC (Energy Performance Certificate) rated buildings unlawful for all new leases, renewals and extensions. With non-compliance fines of between £5,000 and £150,000, the industry cannot afford to get these wrong. The enforcement of the regulations is expected to drive 'soft refurbishments' around energy efficiency measures to bring uncompliant buildings up to minimum standards.

However, the property industry is notorious for complying with legislation at the last minute! For example, the ESOS scheme had a deadline of 05 December 2015. By then, only around 30% of eligible companies were actually compliant.

In terms of MEES, a quick scan of social media and websites suggests that it is mostly the legal profession who are taking the lead, which is worrying; I wonder if the property profession – and the industry – are sleepwalking into a major compliance issue?

Obviously, many companies want to be cautious at the moment given BREXIT and other uncertainties. However, deferring the implementation of efficiency measures in the face of the new Standards may lead to longer-term problems – not least potential delays in leasing properties.

So, how can building engineers use these regulations to create value for building owners and occupiers, and can so-called 'value chains' be used to deliver effective solutions that create win-win scenarios for everyone?

Overview of the MEES Regulations

The 2011 Energy Act requires the Government to set minimum Energy Performance standards in the domestic and non-domestic rented (leased) property market. The 2015 Energy Efficiency Regulations defined the MEES which has been set at an 'E' EPC rating, and made 'F' and 'G' rated buildings unlawful. There are commercial exemptions, the main one being that a payback threshold is set at beyond seven years where it is unreasonable to expect investment for longer paybacks. Further exemptions include:

- If works devalue the property by -5%.
- If consent is denied (Building Regulations and Planning)
- For very short (six months<) or very long leases (99 years<)
- Public landlords (Housing Associations).

The key dates relating to the MEES are:

- 01 April 2018 – Minimum 'E' EPC for new leases and renewals/ extensions
- 01 April 2023 – Minimum 'E' EPC for all leases.

So, by 01 April 2018, all landlords and/or tenants will need to

have met the minimum standard of 'E' EPC, or have registered an exemption. It is the local authorities that will enforce the provisions via trading standards.

Scale of the issue

The Government has estimated that 'F' and 'G' ratings make up 18% of the total building stock in the sector. There are around 75,000 commercial premises with 'F' and 'G' EPC certificates and a further 65,000 with an 'E' certificate.

Of course, the value of EPCs has been questioned by the industry for two main reasons: First, there have been a number of calculation methodology changes that yield different EPC results. Second, the market has been awash with cheap EPCs with potentially inaccurate results, so the value of EPCs is, unfortunately, uncertain.

Soft refurbishments

The route to compliance will be through 'soft refurbishment' buildings with retro-fitting energy efficiency improvements.

Studies have found that the most common of these improvements include lighting, controls systems, variable speed drives, ventilation heat recovery, thermal insulation, boilers and chillers and external fabric improvements. The capex costs to achieve an 'E' rating (within a seven-year payback) is around £4-£16 ft² although, interestingly, it can be more cost-effective to achieve a 'D' rating than an 'E' rating. For most building types, obligations are usually less than 12 months' rent, but for some industrial buildings these obligations could be several years.

The value of soft refurbishments

There is real value in implementing soft refurbishments that goes far beyond the cost of legal compliance. Benefits include:

- **Lower energy consumption and costs** – In practice, a good energy efficiency retro-fit programme can yield verified energy savings in the region of 10-20%
- **Better controllability** – The provision of good controls for lighting, heating, and ventilation and air conditioning systems will improve how building occupants can control the thermal and visual environment to their satisfaction. This can be achieved with central or local control depending upon the building and organisation in question.
- **Environmental comfort** – Improvements to building fabric, lighting, ventilation, heating and cooling systems can lead to an improved thermal environment. Examples include correct air temperatures, reduced draughts, glare-free lighting. Improved thermal comfort is linked to a more productive and healthier workforce.
- **Improved air quality** – Improvements in ventilation filtration and heat recovery can fix problems with poor air quality, especially high concentration levels of CO₂, which can be a major source of building-productivity issues.
- **Reduced noise** – Improvements in building insulation and windows can reduce noise contamination. The use of variable speed drives that lower the speed of ventilation fans to match



MEES

internal environmental needs also reduces background noise. Again, noise levels are often linked to building health and productivity problems.

- **Reduced maintenance costs** – Improvements made to building services' systems and to the building fabric can reduce immediate maintenance costs as well as replacement costs in the longer term. These improvements should be factored in to the business case so that intelligent value decisions can be made. For this reason, a whole-life cost model can be adopted, or, in the case of simple projects, an NPV (Net Present Value) calculation with maintenance cost flows included.

Risks

Clearly, soft refurbishments carry risks for landlords and tenants, and those need to be identified and carefully managed to ensure that the benefits are not lost. The risks will vary depending upon the sector, the technologies proposed, the level of disruption during improvement works and the level and thoroughness of testing and commissioning, as well as handover and post-completion results.

You can create further value by implementing an appropriate risk-management process. This must be client-focused and take into account the original technical and business intent of the improvements, superimposed over the organisational and operational needs of the building. Clearly client disruption and down-time needs to be avoided, if possible.

Using value chains to implement soft refurbishments

I believe that it is possible to create value for landlords and tenants (clients) through the MEES regulations, if the correct approach is taken. The value to the clients is that their buildings can become more efficient, productive, and healthier through improved facilities and operations.

During my time training to be a Chartered Director, we studied 'value chains' as part of business strategy planning and I want to share the concept because I think it applies well here. The 'value chain' is based upon an understanding that the client derives 'value' from their building operations. Typically, it will be from their building users, operators, maintainers and inherent designers such as architects, building surveyors and contractors.

Start by identifying those areas where value is recognised by the client – which will be built into the programme of works. This should be at the planning, design installation, completion or handover phase. An example of a value chain could be engaging with the FM contractor at the planning stage, partnering with the clients' incumbent architect/building surveyor in project management, and then training staff and the FM contractor at completion.

Implementing soft refurbishments

Consider the following four steps:

Step 1 – Masterplan

- Review the portfolio lease renewal key dates and develop a forward masterplan for the period 2016 to 2023.

- Review the organisation's existing asset management plan to ensure that there is a linkage to all planned projects.
- Establish the validity of the existing EPC ratings – are they correct and accurate? Carry out additional or new EPCs to flush-out any suspect EPCs.
- Set targets – should the organisation target for minimum standards at 'E' or should they target for a better EPC? Develop and appoint a 'MEES' implementation team.
- Undertake portfolio risk management around the MEES legislation and categories of properties. Ensure you undertake a techno-economic evaluation
- Consents and legals – ensure that the red tape is suitably addressed, especially the complex area of who is funding the project and who is benefiting from energy savings.
- Risk management strategy – developing this will identify risks and how they are to be managed throughout the process.

Step 2 – Develop appropriate technology strategy

- Determine cost-effective energy efficiency strategies for the specific estate/building, bearing in mind that technologies will perform differently for different clients because organisational operating parameters will yield different results.
- Test your strategies before the roll-out; e.g. understand the actual costs and savings on a pilot project if the client is a multi-site operator. Review and refine the technology strategy from learnings from pilot installations.
- Agree the final strategy with anticipated project energy savings and costs.

Step 3 – Project management and implementation

- Develop the technical specifications to deliver the energy savings. This will include a package of project preliminaries, technical specifications, drawings, risk assessments etc.
- Tender Action – to ensure that the best value is obtained from the supply chain in terms of value for money, ensuring that the service level and adherence to specifications and financial value are all understood and measured.
- Implement – ensuring that minimal disruption is made to the client.
- Commissioning – this is a very important part of the project to ensure that the systems are set up correctly, and that value is derived from the installations.
- Training – to ensure that the building occupants can correctly use the new system changes and indeed that misuse does not creep in.

Step 4 – Measure and monitor savings

- Measure energy impacts at three, six, nine and 12 months, allowing the opportunity to re-tune systems if they need it.
- Verify the savings at 12 months and compare against the original business case.
- Feedback to effectiveness of measures – learn from the process for future implementation rounds.

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