HELPING BUSINESSES TO IMPROVE THE WAY THEY USE ENERGY – CALL FOR EVIDENCE

Written Evidence Submitted by the British Property Federation

British Property Federation

1. The BPF represents the commercial real estate sector – an industry with a market value of £1,662bn and which contributed more than £94bn to the economy in 2014. We promote the interests of those with a stake in the UK's built environment to government, and our membership comprises a broad range of real estate owners, managers, developers and supporters. Their investments help drive the UK's economic success; provide essential infrastructure and improve society by creating great places where people can live and work.

2. The BPF has a committee dedicated to sustainability issues, reflecting the priorities that its leading members place upon issues of environmental enhancement, climate change and resource efficiency. We also provide secretariat support to the Green Property Alliance, a group of the leading organisations representing both landlord and tenant interests (membership includes: the Association of Real Estate Funds, Better Buildings Partnership, British Council of Shopping Centres, British Council for Offices, BPF, Investment Property Forum, Royal Institution of Chartered Surveyors, UK Green Building Council and the Urban Land Institute).

3. We welcome the government's long-term commitment to decarbonising business activity and the associated built environment as set out in the Clean Growth Strategy (2017). We wholeheartedly support the aspiration to reduce business energy use by 20% by 2030, and are keen that the practices of the real estate sector are in line with this aspiration. Higher targets would also be welcome, subject to establishing the relevant long-term trajectories and specific methods by which efficiencies will be achieved.

4. We have, through this submission, responded to a number of the questions posed, with a particular focus on those relating to Chapter 3: Buildings. Whilst the Sustainability of the UK's building stock is high on the policy agenda, we believe that existing policy and regulatory instruments have focused too closely on energy efficiency by way of built fabric (which remains important) and that greater attention must be given to the operational efficiency of buildings. This is particularly prudent in a time of significant projected climate change, and whilst this poses some level of uncertainty, the real estate industry will be better able to plan for future investment if government provide a clear long-term trajectory for policy in this sphere.

5. We would note within this submission that the energy efficiency policy landscape is a complex one and at the time of writing a number of separate but associated consultation exercises are being undertaken or have been committed to by the government. We would therefore highlight our intention to respond in due course to the MHCLG and BEIS consultation on *Energy Performance Certificates in buildings: call for evidence (2018),* a future MHCLG consultation expected on a review of Part L of the building regulations, and a future expected consultation on energy efficiency in the non-domestic Private Rented Sector, and that - such is the crossover in policy amongst these consultations – our submissions should be considered as a whole and as complimentary to each other.

6. The comments provided within this submission are from the perspective of commercial and industrial property owners, developers, sustainability consultants, and advisors.

7. Should you require any further information on any aspect of this submission please contact Alex Green (Assistant Director), on either agreen@bpf.org.uk, or 020 7802 0107.

HELPING BUSINESSES TO IMPROVE THE WAY THEY USE ENERGY – CALL FOR EVIDENCE

BPF Response to the Call for Evidence on Helping Businesses to improve the way they use energy

Q1 - What do you see as the key developments and trends that will impact on the energy efficiency market over the next 10 years?

8. We welcome the government's commitment to building a more resilient, sustainable, and efficient business sector, and welcome this opportunity to submit the views of our members who design, deliver, and operate a significant number of business premises across the UK. The working experience of our members has informed this response and we have subsequently identified a number of existing trends and likely pinch points for the sustainable use of energy in coming years.

9. Although not an identified future market trend, we would emphasis the role that operational energy performance must play in the future trajectory for reducing consumption by 2030. The current building regulations (and any future update to them) focus activity on designing buildings to comply with those regulations and play a valuable role to that effect. Notwithstanding our opinion that Part L of the building regulations requires review and a subsequent update – particularly as the respective carbon factors are out of date – policy must shift to encourage an environment in which the operation of buildings is better regulated and that higher efficiencies are achieved. Whilst designing business premises to comply with building regulations can provide a worthwhile foundation for sustainability, the differences in operational need within certain sectors such as retail or industrial (where unregulated energy use can be high) make the in-use energy consumption all the more significant. We would therefore recommend that effective building regulations applied in tandem with policies that validate operational energy use would produce better outcomes in the future.

10. Through the recent BEIS consultation on *A future framework for heat in buildings* we submitted a response which emphasised the need to future proof the electricity grid by way of planning for and delivering the necessary national infrastructure to build capacity in the grid. BEIS have identified that (excluding industrial processes) the most significant end use for energy consumption in businesses is heating, which accounts for 49% of the non-domestic stock's energy consumption. Of this 49% a vast majority is due to non-electrical energy consumption. With the trend towards new sustainable technologies (particularly in transport) and a renewed increase in the installation of heat pumps we would expect to see greater demand on the electrical grid. Notwithstanding the aspiration stated within this consultation to decrease total energy usage, significant thought must be given to a) the amount of energy needed for heating and b) the respective energy source for such consumption (particularly when considering broader aspirations for decarbonising energy). We would therefore in the first instance highlight the relevance of our response submitted with regard to *A future framework for heat in buildings.*

11. We would however restate the importance of planning for and increasing the capacity of the UK's electrical grid infrastructure. Our members have noted existing constraints surrounding electrical infrastructure particularly for developers and applicants that strive for greener outcomes. With a shift to new technologies such as electric cars, on site battery storage and smart tech, more capacity and connectivity must be built into existing distribution networks. This will have implications for energy efficiency at source and at end use, as well as implications for storage and the redistribution of energy.

12. Further, with regard to trends in heating buildings, we note that the government has committed resources to the development and expansion of heat networks in the drive to create efficiencies in the long term. Heat networks can provide a unique opportunity to exploit larger scale renewable and recovered heat sources that could not otherwise be used, and in such cases could be cost-effective and contribute to emission

reductions. This is however largely dependent on context and is not a given. A significant barrier to district heating/heat network implementation is the capital costs involved. Until this hurdle is cleared, the use of such networks may not represent a significant trend.

13. With technological advances and changes in working patterns come opportunities to enact efficiencies. One such area that may come to prominence in coming years is battery storage technologies. Although these do not directly lower total energy use, they can increase the gains from renewable energy generation and mitigate pressures on the grid. Whilst battery storage can work at scale, the cost-effectiveness of such technologies does not currently translate across the board. It is likely that the associated technology will fall in price over time and may therefore be a significant factor in the UK's future energy infrastructure. It is also notable that recent developments in Blockchain technology may have positive implications for localised energy markets and more efficient use of energy generated.

14. A significant future development that has dominated news in recent months is the future change in climate both globally and in the UK, and its likely impact on the wellbeing of the population. The Committee on Climate Change state that there is a 50% chance that global temperatures will rise above 2 degrees by the end of the century (CCC, 2018) and that heat related deaths could increase from 2,000 per year today to 7,000 in the 2050s (CCC, 2018). In light of these likely developments it is likely that action will be needed to cool and better ventilate both business premises and residential properties. Accordingly, air-conditioning solutions may become more widespread. However, as we head towards a net zero carbon future such energy intensive solutions are less than ideal. These solutions also prove difficult for existing building stock as retrofitting such systems can be technically and economically difficult and often not possible. We therefore contest that climate resilience will constitute a necessary development in coming years.

15. The changing nature of work practices and the advent of flexible working arrangements is a trend that may need monitoring in coming years. ONS statistics show that in 2015, 4.2 million people across a range of sectors worked from home and that between 2012 and 2016 flexi-time has risen by 12.35% (HSO). Given this trend, and the likelihood that technological advancements by way of connectivity and networking capabilities will further develop it, consideration must be given to any savings derived from the commercial property sector to ensure that these have not been transferred to the residential sector in terms of business energy use.

16. One future trend that has the capacity to help significantly in the pursuit of greater energy efficiency in businesses, is the proliferation of big data and the availability of information. If the correct, transparent data, of the requisite quality is made available the benefits could be significant. In order to deliver efficiencies across sectors, the importance of benchmarking cannot be understated. We provide more detail on the respective type of data later in this submission.

17. Finally, we would emphasise the topic of leadership with regard to promoting sustainable planning and associated best outcomes. This is to say that whilst local authorities (and in particular their planning departments) are facing increasing pressures on resources, the associated expertise in delivering sustainable outcomes at a local level have at times been lacking. Our members note from working experience that discussions around planning for the sustainability and resilience of developments is at times less understood by planning officers. An example of this is the introduction of climate change consideration within Environmental Impact Assessments, which came into force in 2017, but has rarely been considered by local planning officers in pre-application discussions.

Q4 - What evidence do you have on how increasing building standards could drive improved energy efficiency, or how energy efficiency improvements in buildings have resulted in wider benefits? Is there any evidence that increasing building standards would not drive improved energy efficiency?

18. Building standards (and specifically Part L of the Building Regulations) have undoubtably contributed to improved energy efficiency in new build business premises, however the focus on designing buildings and incorporating technologies that provide efficiencies in predicted/theoretical building performance has led to a 'performance gap' with actual emissions often being significantly higher. With the use of simplistic modelling at the design stage, and no substantial thought given to the impact of unregulated energy sources the use of building standards offer limited scope for true efficiency savings. Alongside this, a lack of sufficient enforcement by building control can compound the issue. It should also be noted that the UK's existing building stock poses a significant challenge for energy efficiency because building regulations will only pick up those that are renovated or rebuilt altogether. Setting aside for now the issues concerning existing building stock, whilst building regulations provide a suitable foundation for improving energy efficiency, the regulations can effectively act as a top-level target (by way of being compliant) rather than a baseline for efficiencies above and beyond the regulations. This is not to detract from the value of the building regulations, but rather to highlight the need for a greater focus on designing buildings with longer term performance in mind. The Better Buildings Partnership in collaboration with JLL in 2012 produced a detailed report which analyses, details, and compares the Energy Performance Certificates (EPCs) of commercial buildings against their actual energy performance (BBP/JLL, 2012). The findings support the conclusion that buildings built to the appropriate buildings standards, and confirmed to have respectively high ratings through EPCs, do not necessarily correlate with in-use efficiency.

19. To this effect we recommend that consideration be given to implementing policies that promote building design for performance on top of suitably robust building regulations. The example of the NABERS commitment agreement scheme implemented in Australia, is often cited as a noteworthy example of an initiative that has promoted a culture of design for performance with successful outcomes. Not only has this resulted in more energy efficient commercial buildings, but it has resulted in greater energy and cost savings for businesses (tenants and landlords) whilst delivering a broader cultural change. As the government's consultation document references NABERS, we have not provided further detail on the workings of the initiative. We do however note that in order to create a significant step change in the energy efficiency of business premises more binding commitments are needed. Voluntary reporting and disclosures tend to create better practice and efficiencies amongst those that are already well performing businesses and real estate companies rather than the desired effect of driving energy efficiency higher amongst the worst performing elements of the market and across the whole sector. Commitment agreements structured like the NABERS programme – through setting KWh targets in the design phase which are subsequently validated once the building is operational – can foster a built environment where designing for optimal operational performance becomes the norm. in relation to this specific theme, we would highlight the work being done through the *Design for Performance* project, through which industry organisations are working with the new South Wales Office of Environment and Heritage to assess the applicability of introducing a scheme similar to NABERS in the UK.

20. With regard to the existing building stock, the government consultation document acknowledges the slower rate of progress on existing buildings and that international research identifies a wide mix of actions are needed to increase efficiency in this field through a combination of policy interventions and voluntary standards supported by finance or other incentives. The document however, only suggests tightening existing minimum energy efficiency standards, and 'halving the cost of renovating existing buildings to a similar standard as new buildings while increasing quality and safety' without indicating how this will be achieved. The Minimum Energy Efficiency Standards (MEES) represent a design rating and do not

incorporate operational performance, therefore a more ambitious trajectory still raises challenges for operational efficiency, which is again a particular issue for shell and core commercial or industrial buildings.

21. Further, under section 6: regulation 28 of the building regulations, guidance is given on *Consequential improvements to energy performance,* and whilst the intent of this policy is laudable, the reality of its implementation would suggest that it should be reviewed. Currently the choice of upgrades made through consequential improvement are defined by a proportion of the overall cost of building works, as opposed to a target for operational consumption. It is therefore not known precisely what energy efficiency improvements are being achieved.

22. Pertaining to the question posed in relation to any notable disadvantages of building standards we would note (although not necessarily detrimental to energy efficiency) that building regulations have had significant implications for the overheating of properties, leading to issues for health, comfort, and wellbeing. This is another unintended consequence of the design for compliance approach.

Q5 – Are there certain sectors that might respond to different approaches and what might they be?

23. BPF member organisations with significant industrial and logistics holdings have reinforced the comments made earlier in this submission pertaining to the performance gap in buildings and the common approach of designing for compliance in shell and core premises. From a planning perspective the lack of policy incentives or regulation around operational performance has created a system by which organisations are not significantly incentivised to deliver buildings with energy efficiencies beyond those needed to comply with the building regulations. Operational energy performance is particularly pertinent in this sector as levels of unregulated energy consumption are high.

24. The retail sector presents a number of unique challenges for energy efficiency due to the common approach of leasing arrangements and associated premises fit out. When retail units are handed over to tenants they are frequently in a shell and core condition which is to say that heating, lighting, air conditioning, and ventilation is absent and installed subsequent to the signing of a lease. This is a necessary arrangement within the sector as one retailer may have differing fit out requirements to another. This results in a division of responsibility where by landlords typically deliver the shell and building envelope whilst a given tenant designs and constructs the internal layout and building services associated with their unit. This necessary division of responsibilities can pose challenges for the common goal of improved energy efficiency amongst businesses. Our members have noted that the existing incentives for tenants/retailers to improve their energy efficiency do not offer enough of a motivation to act accordingly. The problem is compounded in some instances by the relative life cycle of retail outlets and their business models, rendering initiatives like the 7-year payback test less effective than desired. We suggest that there may be a positive role that government can play to raise awareness and consider wider policies to incentivise tenant retailers to think about their long-term operational sustainability. The provision of lighting in retail premises is particularly important to energy use and could be a future area of focus for government.

25. We would note that cultural trends and work practices in commercial office space are having a positive effect on sustainable outcomes, particularly when employer led. New entrants into employment are increasingly conscious of their employer's sustainable/social responsibility credentials, as well as the impact that the workplace might have on health and wellbeing. Initiatives such as *Earth Hour,* exhibit the extent to which such activity appeals to a new generation. Whilst many of the wellbeing specific activity may only offer indirect efficiency savings as a by-product, there is certainly a role for government to play in leveraging this intent and shifting culture to promote efficiencies in big business and in SMEs. We would however, note

that a stronger focus on wellbeing in the workplace may also result in increases in energy use as the climate changes and employees give greater weight to a comfortable environment.

Q6 – What level of Minimum standards and supporting trajectories could work for the wide range of business buildings? What are the key risks?

26. We welcome ambitious targets. Particularly those intended to drive change in a field that holds great importance for the future sustainability and resilience of businesses and business premises in the UK. However minimum energy efficiency standards must also be realistically achievable within the remit of current practices and market forces, with consideration given to the unique challenges facing existing commercial property stock. We therefore regard the Green Finance Taskforce's recommendation to adopt a trajectory and minimum energy standard for commercial properties of EPC B by 2035 as problematic. This trajectory has been transposed from a similar initiative for domestic property and we believe that the two sectors are subject to different challenges. To this effect, an appropriate first step in assigning a supporting trajectory would be to undertake a scoping exercise for MEES and the functioning of EPCs, to determine the viability of any future targets. We note that a separate consultation on *EPCs in buildings* is currently live and we will be providing representations separately. Crucially, before any respective trajectories are set, greater clarity is needed on the future review and update of building regulations and the associated assessment methodologies. Without knowing 'how' we will be measure future efficiency it is difficult to know what level of ambition and target setting is appropriate. To this effect, and in aid of best outcomes, operational energy ratings or carbon metrics may prove more appropriate than the primary use of Energy Performance Certification.

27. Further, we would reiterate a number of considerations that the BPF have previously raised with regard to Minimum Standards and the effective use of such regulations, as follows:

    27.1. Industry certainty for investment purposes is paramount to ensuring best outcomes and if the Government has the intention to ratchet up MEES over time, it should make any such intention clear at the earliest possible date and base its assumptions on a robust impact assessment. The impact assessment should include:

        27.1.1. The effect of rising MEES on property asset classes (with reference also to age and condition)

        27.1.2. The likely cost of packages of energy efficiency measures and their cost effectiveness for landlords

        27.1.3. The availability of respective finance and its effect on returns for landlords

        27.1.4. How MEES can be linked to mutually reinforcing policy interventions, such as ESOS and the latest iteration of the EPBD

Q7 - We would welcome your further views on how we can address the challenges of moving to higher building standards across the diversity of businesses and their buildings?

28. We would take this opportunity to again reinforce the importance of operational energy performance moving forward. Our members believe that there exist serious challenges in achieving EPC B ratings for refurbished or retrofitted commercial buildings, and the current methodology will therefore not result in more energy efficient buildings as many will have been constructed under older building regulations/standards. A step change by way of targeting 'measured' operational energy use alongside a

greater role for tenants and occupiers, would result in better outcomes. This is particularly important in light of climate change projections and potential shifts in the way businesses need to use energy. With a more polarised climate likely to manifest in the UK, thoughts must be given to operational flexibility in terms of cooling as well as heating. It is well documented that some new buildings delivered in line with current building regulations suffer from overheating due to 'over efficiency' in a warmer climate. This is a difficult challenge to overcome through the use of higher building standards at the design stage as current regulations focus on minimising the need for regulated and unregulated internal heating and a subsequent priority over cooling.

29. We would also highlight the role that enforcement must play in ensuring that building standards are having the desired effect. Both building regulations and minimum energy efficiency standards can only perform to their full intention when they are being enforced appropriately.

30. We support the Green Finance Taskforce's recommendation for the introduction of Green Building Passports, as it begins to address the issue of operational energy use and the often-cited challenges associated with maintaining and efficiently operating commercial buildings when assets are sold or there is a change in ownership.

Q8 - What type of data is important to you for measuring operational energy ratings of business buildings to help support or drive any future minimum standards?

31. The government has correctly identified the importance of data and the quality of this data when assessing the necessary conditions to drive greater energy efficiency in businesses and their premises. With regard to the aspiration to improve the energy efficiency of businesses, we believe that in order for asset owners to drive efficiency they need to have sight of the wholistic outputs of their buildings and to transpose and compare these to the outputs of the best examples of efficient building stock. The Better Buildings Partnership has clearly demonstrated the value of building owners being able to benchmark against other buildings in the sector through their *Real Estate Environmental Benchmark* (BBP, 2017). To this effect what is needed can be summarised as whole building sub-metered data.

32. Whilst we acknowledge that significant challenges exist with regard to obtaining energy use data from occupiers and that there are no existing obligations to share this data, the aspiration to improve energy efficiency in non-domestic buildings can only be comprehensively achieved through understanding and interrogating data on a whole-building level, broken down by occupancy. This issue can be resolved by requiring operational ratings to be split out and the energy used by each party reported separately. The British Property Federations *LES-TER programme* (BPF, 2008) and BBP's *Landlord Energy Rating* (BBP, 2014) offer solutions to this effect.

33. We do however note a number of questions that arise from being able to interpret and analyse sub-metered data within a given building. Namely;

    33.1. Are tenants and occupiers well enough equipped to collect and interpret the relevant data?

    33.2. What are the consequences or enforcement considerations in a potential future scenario where tenants/occupiers are held to account for not hitting the relevant benchmarks/performance targets? As with much of the debate around efficiency improvements, who might bear the costs in a circumstance where there is a shortfall?

34. In addition to the numerous considerations surrounding the capture and interpretation/enforcement of energy data, we would emphasise the role that the correct hardware, software, and training will play in

ensuring robust data collection. This is to say that the choice and accessibility of energy meters and building management systems alongside the software platform used for collection are equally as important as the data collection itself. Given the variety of likely end users for these data collection measures, they should be accompanied by appropriate training.

35. Further, the benefit of robust data can only be fully realised if there is a suitable tool available to appropriately benchmark this data against. We believe that the best current example of such a benchmark is the CIBSE Energy benchmark due to its use of real occupation densities and hours of occupation alongside capturing regulated and unregulated elements.

Q9 - What evidence is there to support the effective use of voluntary standards within the UK? What opportunities exist for expanding voluntary standards?

36. There is some support amongst our membership for the format and structure of Display Energy Certificates and the associated voluntary scheme for commercial office buildings. The focus on energy performance based on actual energy consumption over time is a particular benefit of DECs and can offer a useful benchmark for non-domestic buildings to this effect. As with many voluntary standards however, there is a lack of incentive for building owners and/or occupants to have a DEC prepared. In particular when considering the role of property funds in accruing significant holdings in commercial building stock, the relative detachment between asset owner and the active use/operation of the building can pose a problem by way of clarity around incentives to undertake DEC assessments across their portfolio. Further, knowledge of DECs and associated incentives is limited amongst occupiers/businesses who in some cases will take 50-100 sqm of space within a building, again creating some detachment between the business and the benefits of a DEC given that these are whole building certificates.

37. Additionally, we note the relative success of the BREEAM assessment method for sustainability of built assets, principally due to its international recognition as a mark of quality and its long standing since it was first introduced in 1990. With the global total of certified buildings reaching 565,000 and a further 2 million registered for assessment, the success of the standard is well documented. There are however some limitations to this voluntary standard, namely that the use of such standards retain a focus on designing for compliance with a weighting towards the design and construction phases rather than operation. Only BREEAM Outstanding requires the monitoring of in-use performance. The use of BREEAM assessments also tend to be concentrated in urban centres with higher asset values, meaning that it may not present a viable tool for areas where lower values are apparent. We would more broadly note that BREEAM is not purely an assessment of energy efficiency, but incorporates wider elements of sustainable behaviour.

Q10 – How can the government support more widespread voluntary standards and other mechanisms including green leases? What are the barriers to development of such standards and products?

38. With regard to the voluntary use of green leases the experience of our members has been that the implementation of such initiatives can at times be challenging in the current regulatory environment. The desire to enter into a green lease is often driven by the intent to boost an organisation's reputation rather than to ensure sustainable outcomes. This is compounded by the detachment between those within an organisation that are responsible for signing a premises lease and those that work and operated from the premises (i.e. these responsibilities are often given to different arms of a given business, particularly in retail or industrial sectors). Further, there are significant challenges for landlords when considering the use of green leases, principally to ensure that they do not unintentionally supress their market by including lease clauses that prove onerous for occupants. We would also note that as with any voluntary arrangement the lack of enforceability may limit the desired outcomes.

39. We do however acknowledge that 'green lease' arrangements would be a necessary element of any future focus on operational building performance/ratings. A regulatory level playing field can however play a crucial role in enlivening the use of lease arrangements. This is to say that if businesses and building owners across the board are required to plan for operation standards the market and lease arrangements will have to adapt accordingly.

Alex Green
Assistant Director (Development and Sustainability)
British Property Federation
St Albans House
57-59 Haymarket
London SW1Y 4QX

0207 802 0107
agreen@bpf.org.uk