

# Options Assessment (OA)

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Title: Improving the energy performance of privately rented homes in England and Wales

Type of measure: Secondary legislation

Department or agency: Department for Energy Security and Net Zero

OA number: DESNZ001(OA)-25-NZBI

RPC reference number: N/A

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Date: 7 February 2025

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# 1. Summary of proposal

1. The Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015<sup>1</sup> (hereafter referred to as “the PRS Regulations” or “MEES”) introduced a minimum energy efficiency standard (MEES) in the private rented sector (PRS). The standard requires PRS properties to be rated Band E or better on a valid Energy Performance Certificate (EPC), unless there is a valid exemption. In April 2018, the standard was applied to PRS properties let on new or renewed tenancies. In April 2020, the standard was extended to cover all tenancies.
2. The Government is proposing to amend the PRS Regulations to further raise standards in the PRS. The proposed changes will make it easier and cheaper for tenants to keep their properties warm, lift tenant households out of fuel poverty and lower carbon emissions. The accompanying consultation sets out the details of what is proposed. In summary, the proposals are to:
  - **Base higher standards on reformed EPCs that feature new headline energy performance metrics.** The Government has separately consulted on proposals for reforming EPCs, including which metrics to display on certificates.<sup>2</sup> It is anticipated that any changes to displayed metrics will be introduced in the second half of 2026, ahead of when higher standards will apply to the PRS.
  - **Require PRS properties to meet a primary fabric performance standard and a secondary standard, which can be met by properties achieving either a standard for adoption of smart and energy generation technologies (the smart standard) or a standard for heating system performance (the heating standard).** Landlords have a choice between achieving the smart standard or heating standard with one being sufficient. To incentivise fabric improvements, improvements made towards the secondary standard (on ‘smart’ or ‘heating’) will not count towards a landlord’s cost cap until either the primary fabric standard has been achieved or an exemption on meeting the fabric standard has been obtained.
  - **Apply the new standards to properties let on new tenancies from April 2028 and to all tenancies from April 2030.**
  - **Require landlords to obtain a new, reformed EPC featuring the new metrics before taking action to comply with the higher standards.** The Government proposes that the cost of getting a new, reformed EPC can be counted as a relevant cost under a cost cap-based exemption on achieving the higher standards.
  - **Set a £15,000 cost cap that allows for properties to be exempt for 10 years from the new standards if more than £15,000 would need to be spent on upgrades.<sup>3</sup>** Before obtaining the exemption, landlords will need to make improvements up to the point where the next cheapest improvement would push total property spend above the cap. Once the exemption expires – 10 years after registration – landlords will need to either bring the property up to standard, subject to another £15,000 cost cap, or register a further exemption.

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<sup>1</sup> Available at: <https://www.legislation.gov.uk/ukxi/2015/962/contents/made>

<sup>2</sup> [MHCLG \(2024\) Consultation on reforms to the Energy Performance of Buildings Regime](#)

<sup>3</sup> It is not proposed to adjust the £15,000 cost cap for inflation. That is, it is a ‘nominal value’ cost cap, rather than a ‘real value’ cost cap.

- **Allow landlords to count towards their first cost cap the costs of any improvements made after the PRS Regulations are updated with secondary legislation (expected in 2026).** The first cost cap is the one associated with the first 10-year exemption registered for a property based on improvement costs that would exceed the cap. Subsequent exemption registrations, if applicable, cannot rely on improvements that have already been registered to have been made.
  - **Allow landlords to use previous EPCs to demonstrate their properties comply with the existing EPC E standard where a reformed, new EPC is obtained ahead of the changeover to the new standards.** This is a transitional arrangement to avoid landlord compliance with the existing standard being affected by the move to a new assessment methodology (the Home Energy Model) for reformed EPCs.
  - **Treat properties that are rated Band C or better on an existing EPC obtained before new EPCs are introduced (expected in 2026) as compliant with the new standards until the existing EPC expires or is replaced.** This provision will mean that landlords of properties which already have an energy efficiency rating (EER) of Band C or better will have longer to meet the new standards, potentially to 2036 given the 10-year validity period of existing EPCs.
  - **Increase the maximum possible fine for non-compliance with the PRS Regulations to £30,000 per property, for each breach.**
3. In addition to consulting on these proposed changes to the PRS Regulations, the Government is also seeking views on whether it should:
- **Require landlords to obtain a post-improvement EPC to demonstrate a property complies with the new standards, as opposed to relying on evidence of upgrades made.** The consultation also asks whether the cost of a post-improvement EPC should be treated as a relevant cost under a cost cap-based exemption.
  - **Introduce an affordability exemption that can be used by eligible landlords to reduce the cost cap that applies to improvements made to their properties** (e.g., lowering the cost cap to £10,000). The consultation sets out potential approaches to determine which properties may qualify for an affordability exemption.
  - **Apply the new PRS standards to short-term lets.** This would help discourage landlords from repurposing their rental properties as holiday homes.
  - **Take new actions to encourage or require smart meters in PRS properties.**
  - **Amend and/or add to the current exemptions regime for the PRS Regulations.**
  - **Require letting agents and online property platforms to only advertise and let properties compliant with the PRS Regulations.** The Government's current preference is to wait and observe how the creation of a PRS Database (as part of the Renters' Rights Bill<sup>4</sup>) and improvements to the PRS MEES Exemptions Register could improve the ability of letting agents and online property platforms to check for compliance before potentially proposing this requirement.

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<sup>4</sup> A summary of the Renters' Rights Bill is available at: <https://www.gov.uk/government/publications/guide-to-the-renters-rights-bill>

4. With respect to the exemptions that allow landlords to let sub-standard properties under the existing PRS Regulations (EPC E standard), these are listed in Annex A. The proposed amendments to the regulations would update the applicable cost cap under both the 'all relevant improvements made' and 'high cost' exemptions and simplify the 'new landlord' exemption.

## 2. Strategic case for proposed regulation

### 2.1. Problem under consideration

5. Energy inefficient properties impose costs for both the occupying households and UK society more broadly. For the households, they will either pay relatively high energy bills to maintain a comfortable indoor temperature – unfeasible for many low-income households in fuel poverty – or tolerate living in a cold home, which can harm their physical and mental health<sup>5</sup>. For the UK overall, energy inefficient and fossil-fuel heated properties are polluting (the residential sector is responsible for around 13% of the UK's net greenhouse gas emissions<sup>6</sup>) and detrimental to UK energy security, whilst cold homes cost the NHS an estimated £857m per year (2018 prices) and lower economic productivity<sup>7</sup>.
6. The UK Government has a long-standing history of intervening to improve the energy efficiency of homes, from the Building Regulations and Home Insulation Scheme of the 1970s, to more recent interventions such as the PRS Regulations (EPC E standard) and energy supplier obligation schemes. Progress has been made, including a 35% reduction in greenhouse gas emissions from UK homes between 1990 and 2023<sup>8</sup> and a 44% improvement in mean property SAP scores between 2001 to 2022 (taking properties from an average mid-band E to a high-band D on EPCs)<sup>9</sup>.
7. However, if the government is to achieve its objectives on reducing carbon emissions (including the Carbon Budgets, Nationally Determined Contributions and Net Zero by 2050<sup>10</sup>) and objectives on reducing fuel poverty, further intervention will be required. The proposals to amend the PRS Regulations to raise standards further in the PRS are the Government's preferred solution for this sector.
8. There are 5.1 million PRS properties in England and Wales (4.9m and 0.2m, respectively), representing 19% of the housing stock.<sup>11</sup> About 83% of PRS properties in England are heated primarily with fossil fuels (79% gas)<sup>12</sup> and are therefore directly emitting greenhouse gases and worsening local air quality. With respect to energy costs, 55% of PRS properties in England are rated below EPC band C<sup>13</sup> and 24% of private renting households in England were classified as fuel poor in 2023 (the highest across all tenures)<sup>14</sup>. Private rented properties in England are also more likely to have a damp

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<sup>5</sup> For a review of the evidence on the impacts of cold homes on health see [Janssen et al. \(2022\) Cold homes and their association with health and well-being: a systematic literature review](#).

<sup>6</sup> [DESNZ \(2024\) Provisional UK greenhouse gas emissions national statistics 2023](#).

<sup>7</sup> [BRE \(2021\) The cost of poor housing in England](#).

<sup>8</sup> [DESNZ \(2024\) Provisional UK greenhouse gas emissions national statistics 2023](#).

<sup>9</sup> [DLUHC \(2023\) Annex tables for English Housing Survey headline report 2022 to 2023](#). See Annex Table 5.1.

<sup>10</sup> For detail on the UK Government's climate change commitments, see: <https://www.gov.uk/guidance/carbon-budgets>

<sup>11</sup> Data for England taken from the [English Housing Survey \(2023-2024\)](#). Data for Wales taken from [StatsWales dwelling stock estimates](#).

<sup>12</sup> Data taken from [English Housing Survey data on energy performance, heating and insulation](#).

<sup>13</sup> *Ibid.*

<sup>14</sup> [DESNZ \(2024\) Fuel poverty detailed tables \(2023 data\)](#). Note that in 2023, 9% of owner-occupier and 15% of social renting households were classified as fuel poor.

problem (9%) compared to social rented (5%) or owner-occupied properties (2%), which is associated with poor energy efficiency, underheating and poor ventilation.<sup>15</sup>

## 2.2. Rationale for government intervention

9. Without further regulation, it is unlikely that private landlords will make the necessary investments to upgrade the energy efficiency and environmental performance of the PRS stock. Regulation is required to address two key factors which limit investment:
  - **Misaligned incentives:** As landlords do not live in the properties they are upgrading, they do not enjoy the direct benefits of their investments into energy efficiency, thereby limiting investment. Whilst there is a mechanism for landlords to capture these benefits from tenants – by increasing rents – landlords can be constrained in using this where tenants are unwilling or unable to pay more. At present, whilst there is evidence that more energy efficient properties are associated with higher rents<sup>16</sup>, it is unclear whether there is a causal relationship (i.e., that improving energy efficiency leads to higher rents). Consequently, the returns on a landlord's investment are uncertain and this can inhibit action.
  - **The presence of externalities:** Landlords and tenants can be unaware of wider positive externalities associated with providing and living in more energy efficient and less polluting properties. The positive external benefits include reduced greenhouse gas emissions, better air quality, improved energy security and savings for the NHS due to improved tenant health. Private renters also frequently change home<sup>17</sup> meaning that the benefits of their property being improved can mostly fall to future tenants. Again, this makes the benefits of improving PRS properties external to those who can affect the decision. As these external benefits are overlooked, there is a lack of investment into improving properties.
10. Other barriers to investment can include: a lack of knowledge amongst landlords on how to improve their properties; the types of properties suitable for measures, e.g., heat pumps; where trusted installers can be found; and credit constraints.<sup>18</sup> Other government policies and initiatives are in place to help address these barriers. These include: the Find Ways to Save Energy in Your Home website<sup>19</sup>; the Government's heat pump suitability checker<sup>20</sup>; the Trustmark quality scheme providing a register of trusted installers; and various subsidised insulation schemes such as the Energy Company Obligation<sup>21</sup> and Boiler Upgrade Scheme<sup>22</sup>.

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<sup>15</sup> MHCLG (2024) [English Housing Survey 2022-2023 rented sector statistics](#).

<sup>16</sup> See [Fuerst and Adan \(2020\) Do house prices and rents in the private rented sector reflect energy efficiency levels? – final project report for BEIS](#).

<sup>17</sup> About half of private renters in England have been at their current residence for less than 3 years according to the [English Housing Survey 2022-2023 rented sector statistics](#).

<sup>18</sup> [Ambrose \(2015\). Improving energy efficiency in private rented housing: what makes landlords act?](#)

<sup>19</sup> <https://www.gov.uk/improve-energy-efficiency>

<sup>20</sup> <https://www.gov.uk/check-heat-pump>

<sup>21</sup> <https://www.ofgem.gov.uk/environmental-and-social-schemes/energy-company-obligation-eco/homeowners-and-tenants>

<sup>22</sup> <https://www.gov.uk/apply-boiler-upgrade-scheme>

### 2.3. Performance of the current PRS Regulations

11. An impact evaluation of the current PRS regulations is currently being undertaken and will be published in due course. It follows on from the [interim report](#) which was published in 2021 and the findings will inform the details of the final policy design.
12. The evaluation of the current PRS EPC E MEES shows that:
13. **Awareness** levels among landlords were generally high (over 80%), but there were differences in awareness among different types of landlords. Awareness and understanding was lower amongst individual (rather than company) landlords, those who only rent a small number of properties, and those who were not a member of a landlord body or use a letting/managing agent.
14. Landlord bodies and letting and managing agents were the main sources of awareness and understanding of the regulations amongst landlords. Agents and other market actors were also often instrumental in helping landlords interpret the implications of the regulations for the individual properties they owned. This points to the importance of these intermediary organisations in supporting landlords to understand and interpret the new regulations.
15. The vast majority of landlords are **compliant** with the regulations. The evaluation found that the most important factors motivating and facilitating compliance were: the potential negative consequences of non-compliance; a general compliance mindset; and pre-existing plans to upgrade properties.
16. The most common mindset was for landlords to have made improvements necessary to achieve an EPC E rating while minimising costs. However, the characteristics of individual properties were also a determinant of improvements made, and some had invested in more extensive improvements either as part of a wider property upgrade and/or as 'future-proofing' against anticipated future increases in minimum standards.
17. Instances of **non-compliance**, or at least deferred or delayed compliance, were associated with a lack of awareness and understanding of the regulations, the cost and time implications of compliance, and possible disruption for tenants.
18. In terms of the role of Local Authorities (LAs), most landlords (and agents) were not aware of active enforcement activities being undertaken by local authorities, although there were some positive examples of LAs reinforcing compliance.
19. The main reasons for exemptions have been: all relevant improvements already being made to the property; consent for improvements being denied; and the cost cap.
20. Impacts of the regulations: interim analysis has found that the regulations have improved the energy efficiency of private rental sector properties in England and Wales. English Housing Survey data also shows that since 2018, the proportion of landlords reporting having properties with an EPC rating of E, F and/or G has declined from 21% to 15% in 2021.<sup>23</sup>
21. These findings show a positive response and impact of existing regulation regulations and provide confidence that landlord behaviour has responded to the regulations. The findings also show the drivers (potential negative consequences of non-compliance compliance,

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<sup>23</sup> <https://www.gov.uk/government/statistics/english-private-landlord-survey-2021-main-report>

pre-existing plans to upgrade properties; potential benefits for the environment or tenants) and trade offs (improving energy efficiency while minimising costs) and barriers (cost, time and effort, tenant access or disruption) that landlords face. We can assume that these motivations and challenges would be the same with the new regulations.

### 3. Objectives for intervention

22. The proposals to update the PRS Regulations have been developed to achieve the following objectives by 2030:
- 1) Improve tenant welfare through warmer homes, lower energy bills and reduced prevalence of fuel poverty.
  - 2) Drive cost-effective energy efficiency improvements in PRS properties.
  - 3) Reduce the emission of greenhouse gases caused by using fossil fuels for heating.
  - 4) Lower tenant energy demand, thereby improving UK energy security.
  - 5) Boost the growth of the UK's energy efficiency and clean heat sectors.
23. These policy objectives align with the Government's broader objectives on cutting carbon emissions (including meeting the Carbon Budgets, Nationally Determined Contributions and Net Zero by 2050) and achieving fuel poverty targets in both England and Wales<sup>24</sup>. The policy objectives are also in support of the Government's missions to kickstart economic growth and to make Britain a clean energy superpower<sup>25</sup>.
24. It is recognised that there is currently a tension between some of the policy objectives. To make significant progress in reducing carbon emissions in the PRS the policy would need to bring about widespread deployment of heat pumps. However, given the current relative cost of electricity to gas, installing heat pumps risks increasing the energy bills of some private renters, especially if effective use of time-of-use tariffs is not made.<sup>26</sup> As a result of this tension and considerations including landlord costs, the accompanying consultation sets out a range of policy options on which EPC metrics the Government could adopt for the PRS Regulations. The choice of option will also have a bearing on which of the above objectives take priority in the context of this policy.

### 4. Policy options being consulted on

25. To achieve its objectives for the PRS, the Government's preferred approach is to regulate the market to ensure higher standards are met. Alternatives to regulation, including improving landlord information, providing subsidies and relying on self-regulation, have been considered and ruled out. These alternatives either fail to overcome effectively the market failures (misaligned incentives and externalities) to deliver the scale of improvements required, or in the case of providing very significant taxpayer funds to landlords (or tax incentives), would be unequitable. However, these forms of intervention will continue to play an important role in supporting landlords by tackling other barriers to investment, including through raising knowledge, addressing credit constraints and

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<sup>24</sup> The existing fuel poverty target for England is to improve as many homes of fuel poor households to EPC Band C by 2030 as is reasonably practicable. In Wales, the Welsh Government has set three targets for 2035 under its fuel poverty plans, which are detailed here: <https://gov.wales/tackling-fuel-poverty-2021-2035-html>.

<sup>25</sup> <https://www.gov.uk/missions>

<sup>26</sup> Note this tension could reduce in the longer term if energy prices rebalance in favour of electricity.

providing targeted grants where, for instance, landlords are housing low-income and vulnerable tenants.

26. Following the decision to regulate, the Government has considered options on the design of the regulatory intervention, including options on the definition of higher standards, the timeline for their introduction, the transition arrangement from existing standards and EPCs, the available exemptions (including the applicable cost cap) and options on boosting compliance and enforcement.<sup>27</sup>
27. The accompanying consultation sets out and explains the Government's preferences on the different policy elements. With respect to how higher standards for the PRS will be defined, the consultation sets out the Government's preference to move away from basing standards on energy costs (as modelled by EPCs). Instead, the Government proposes to base higher standards on other factors of property energy performance, using metrics proposed in the Government's consultation on reforming EPCs.<sup>28</sup>
28. Three broad options for defining higher standards in the PRS are proposed, which differ in the metrics used and/or when improvements can be counted towards a landlord's cost cap (this second element is used to incentivise fabric improvements in Option 1). The broad options (including sub-options) are:

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**Option 1 (preferred)** – The higher standard comprises of a primary fabric performance standard (using the fabric metric) and a secondary standard, which can be met by a PRS property achieving either:

- (i) A set standard for adoption of smart and energy generation technologies (using the smart metric); or
- (ii) A set standard for heating system performance (using the heating metric)

Under Option 1, landlords have the choice between achieving (i) or (ii) for their PRS property with either being sufficient for the secondary standard. To incentivise fabric improvements being made first, improvements made towards the secondary standard (on 'smart' or 'heating') will not count towards a landlord's cost cap until either the primary fabric standard has been achieved or an exemption on meeting the fabric standard has been obtained.

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**Option 2** – Base the higher standard on either:

**Option 2a:** Fabric performance and adoption of smart and energy generation technologies (fabric & smart); or

**Option 2b:** Fabric performance and heating system performance (fabric & heating); or

**Option 2c:** Adoption of smart and energy generation technologies and heating system performance (smart & heating)

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<sup>27</sup> A series of workshops were held internally in DESNZ where options across the different policy elements were assessed amongst policy and analyst officials. Policy proposals were also tested with other government departments.

<sup>28</sup> [MHCLG \(2024\) Consultation on reforms to the Energy Performance of Buildings Regime](#)



Under Option 2, improvements made on either element of the dual-metric standard can be counted towards a landlord's cost cap. This means there is a level-playing field in terms of which element of property performance a landlord focuses on improving first.

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**Option 3** – Base the higher standard on 'fabric', 'smart' and 'heating' performance with there being an average<sup>29</sup> level of performance for PRS properties to achieve across all three. PRS properties would meet the standard with either a breadth of good performance across all elements or depth of exceptional performance on some elements which raises the average to the required level.

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29. Assessing the trade-offs between these options is the focus of the modelling contained in this Options Assessment (OA). For completeness, their outcomes are compared with the outcomes of two further options where higher PRS standards are based on modelled property energy costs, as is currently the case. These additional options are:
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**Option 4** – Base the higher standard on property energy costs, using the cost-metric on reformed EPCs. The standard would be set at the equivalent of EPC C.

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**Option 5** – The Government does not reform EPCs and sets the higher standard at EPC C on the existing cost-metric.

The outcomes of this option are provided solely as a reference point, to demonstrate how Options 1-3 compare in scope and impact to what a policy based on current EPCs could deliver. Setting a cost-based standard of EPC C on current EPCs was proposed in the Government's 2020 consultation on raising standards in the PRS.<sup>30</sup>

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30. For the most part, this OA does not provide modelling based on varying other elements of the policy design. Unless otherwise stated, each option is assessed where the Government's preferred approach is adopted on the other policy elements, for example, on the timings for new standards to come into force and the use of a £15k cost cap. These preferences are set out in Section 1. However, in Annex B, modelling results based on using a lower £10k cost cap are provided for consultees to consider when responding to the consultation question on whether they would support a lower cap.
31. As the final metrics to which these regulations would refer cannot yet be conclusively defined, there is additional uncertainty with respect to the design and impact of the options presented in this OA. This is discussed further, below.

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<sup>29</sup> Note that the term 'average' is used loosely and does not presuppose that all of these metrics on reformed EPCs will score properties with numerical values. For example, the Government's consultation on reforming EPCs mentions that one option for assessing 'smart' performance could be the use of a qualitative checklist. In such a case, Option 3 could be designed such that landlords can trade off performance on this checklist against performance on other metrics.

<sup>30</sup> [BEIS \(2020\) Improving the energy performance of privately rented homes – 2020 consultation](#)

## 5. Approach to assessing policy outcomes

### 5.1. Proxy definitions of new EPC metrics and PRS standards

32. The Government's consultation on reforming EPCs went live on 4 December 2024<sup>31</sup>. New EPC metrics will be produced using the Home Energy Model (HEM) and we plan to consult on the HEM methodology in 2025. The intention is to transition to reformed EPCs, based on HEM and RdHEM (the reduced form of HEM used by EPC assessors), in the second half of 2026.
33. The approach taken in this OA to assess policy outcomes has been to focus on the high-level implications of basing new PRS standards on different elements of property performance. Ahead of the Government reaching its final position on how reformed EPC metrics should be constructed and properties assessed, the Government cannot at this time define or propose specific targets for the PRS on the new metrics.
34. To make salient the trade-offs between the options set out in Section 4, modelling has been carried out with proxy definitions of the new EPC metrics and illustrative targets. These definitions and targets should not be taken as an indication of how the new EPC metrics or the higher standards for the PRS will ultimately be defined. Their use is solely to throw light on what can be achieved by basing PRS standards on the different elements of property performance (fabric performance, adoption of smart and energy generation technologies, heating performance and energy costs) and to give a sense of the numbers of properties affected and the magnitudes of costs.
35. Table 1 describes the proxy metrics and targets used in the modelling. Note that the proxy metrics for 'fabric' and 'energy costs' are continuous in nature, allowing for more calibrated targets to be used. However, the proxy metrics for 'smart' and 'heating' are binary with targets based on whether a property has solar PV or a heat pump, respectively. Consequently, the modelled outcomes for 'smart' and 'heating' are potentially more polarised than what may occur if PRS standards are based on the final HEM versions of these metrics.
36. For this consultation OA, decisions on the proxy metrics and standards to use were influenced by what it is currently possible to model using the Department's National Buildings Model (NBM)<sup>32</sup>. At the time of analysis, the NBM did not feature some measures, e.g., batteries, that may feature as part of the final HEM versions of the metrics. Following development of HEM and ahead of the final IA for the policy (to go alongside the legislation in 2026), the Department's modelling will be updated to account for the key measures that feature in the final HEM metrics.

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<sup>31</sup> [MHCLG \(2024\) Consultation on reforms to the Energy Performance of Buildings Regime](#)

<sup>32</sup> <https://www.gov.uk/government/publications/beis-business-critical-analytical-models-2022/beis-business-critical-models-2022>

**Table 1. Proxy definitions of new EPC metrics and PRS standards used in modelling**

Metric	Proxy definitions
<b>Fabric</b>	<p><u>Proxy metric</u>: SAP dwelling heat loss (<math>W/m^2K</math>)<sup>33</sup>.</p> <p><u>Proxy PRS standards</u>:</p> <ul style="list-style-type: none"> <li>• Heat pump ready standard: <math>4 W/m^2K</math> – this aligns with a threshold of fabric performance used in DESNZ modelling to determine when a property is “heat pump ready” for a low temperature heat pump.<sup>34</sup> With this standard, around 20% of PRS properties – those with the worst fabric performance – would currently be below standard.</li> <li>• Higher standard: <math>3 W/m^2K</math> – with this standard, just under 50% of PRS properties would currently be below standard. Of those, around 95% are judged to be below Band C for energy costs on current EPCs.</li> </ul>
<b>Smart</b>	<p><u>Proxy metric</u>: We proxy for smart properties according to whether or not they have a solar PV system. There are other possible components to a smart property, including smart meters and batteries, which are not accounted for. However, note smart meters are assumed to be in place / installed where properties get solar PV as this enables households to take full advantage of the system, including selling excess electricity to the grid.<sup>35</sup></p> <p><u>Proxy standard</u>: Property must have at least a 1kW solar PV system.</p>
<b>Heating</b>	<p><u>Proxy metric</u>: We proxy for properties having good heating system performance according to whether or not they have a heat pump.</p> <p><u>Proxy standard</u>: Property must have a heat pump.</p> <p>Note this is an ambitious standard. Lower ambition standards based on properties being heat-pump ready (e.g., having suitable emitters and pipework) may be possible. Finally, some landlords may be able to achieve the equivalent of a heat pump by connecting to a heat network (not modelled).</p>
<b>Cost</b>	<p><u>Proxy metric</u>: Energy cost per <math>m^2</math>, based on an RdSAP2012 cost calculator but updated to use projected 2030 fuel prices.<sup>36</sup> Note that SAP/RdSAP is the existing methodology for assessing property energy performance and will be replaced by HEM/RdHEM.</p> <p><u>Proxy standard</u>: An energy cost per <math>m^2</math> set so that 52% of all properties in England fall below the standard. This matches the current proportion of properties in England below Band C on current EPCs.<sup>37</sup> Note as 2030 fuel prices are different to the 2010-2012 prices used for current EPCs, the makeup of properties is different.</p>

<sup>33</sup> Heat lost from the dwelling (W) per  $m^2$  floor area of the dwelling ( $m^2$ ) for each degree temperature difference between internal and external temperature (K).

<sup>34</sup>  $4 W/m^2K$  is approximately equivalent to the  $100 W/m^2$  peak heat loss on the coldest day threshold that we use as a proxy for ‘low temperature ASHP ready’.

<sup>35</sup> It has not been possible to fully account for additional smart meter installations in the modelling that occur where solar PV is installed. Our modelling implicitly assumes that households getting solar PV already have a smart meter, thereby allowing them to benefit from selling excess electricity generation to the grid. This income is added into the estimated average energy bill savings for households. Should households get a smart meter for the first time alongside their solar PV, they may benefit from even higher energy bill savings due to the ability to monitor their energy use.

<sup>36</sup> Projected 2030 fuel prices were taken from DESNZ’s supplementary guidance to the Green Book, available at: <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>

<sup>37</sup> Based on data from the [English Housing Survey 2022-23](#)

## 5.2. Focus on maximal outcomes

37. The outcomes presented in this OA are based on simplified, optimistic scenarios on the uptake of measures in the PRS. In these scenarios:

- **All relevant third parties, e.g., tenants, freeholders and local authorities, consent to measures being installed.** However, it is known from the experience of the existing PRS Regulations (EPC E standard) that third party consent cannot always be obtained. As of 16 December 2024, the PRS MEES Exemptions Register contained 2,328 registered exemptions made due to consent being denied or subject to unreasonable conditions. This is around 1% of the number of EPC F/G properties that were in the English PRS in 2018, when the EPC E standard came into effect.

Where a tenant refuses to consent to measures being installed, this in many cases would act to only delay upgrade works taking place. The landlord would still need to upgrade the property once the sitting tenant leaves and before letting to a new tenant.

Other third-party consent exemptions are likely to last much longer. For instance, if a landlord owns a lease on their property and their freeholder says they cannot install solar PV or a heat pump, this situation may be unlikely to change. Note that in England, 38% of properties in the PRS are owned on a leasehold basis. Therefore, there is a risk that freeholders could hold back a significant number of upgrades in the PRS if they are not in favour of the required measures.

With respect to local authorities, they may refuse to consent to property improvements where the property in question is a heritage building or situated in a conservation area. Our modelling assumes heritage buildings are in scope of and upgraded towards a future MEES. This is in line with the Government's proposal to require heritage buildings to have an EPC.<sup>38</sup>

- **No landlord gets a 'wall insulation' or 'property devaluation' exemption.** As of 16 December 2024, the PRS MEES Exemptions Register contained 882 registered exemptions against the EPC E standard due to relevant experts assessing properties as unsuitable for wall insulation (despite the measure being recommended on an EPC). Our modelling relies on SAP/EPC assessments of properties to determine when wall insulation can be installed, so will not account for additional assessments that go against what the EPC recommends.

The MEES Exemptions Register also contained 21 registered exemptions due to independent surveyors advising that specific measures would reduce property values by more than 5%. Given the strong body of evidence linking better energy efficiency to higher property values, it is not expected that this exemption will be common under updated PRS Regulations.

- **There is sufficient capacity in retrofit supply chains to meet landlord demand without there being sharp rises in measure prices.** Over time we expect supply chains to scale up in response to updated PRS Regulations. Indeed, regulations are an effective way of giving the supply chain the certainty needed to invest in capacity and skills. However, there is a risk that this happens too slowly to upgrade the PRS properties that require upgrades by 2030. Shortages of installers, materials and/or EPC assessors is likely to be associated with increases in the prices of improvement

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<sup>38</sup> [MHCLG \(2024\) Consultation on reforms to the Energy Performance of Buildings Regime](#)

measures. The consequences of this will be increased costs for landlords and potentially more landlords being able to acquire a cost-cap based exemption (because inflation in measure costs drives the cost of improvements to above the cost cap).

- **All landlords upgrade below-standard properties rather than withdraw them from the PRS.** Section 8 provides a discussion of the potential impacts of a higher MEES on the supply of PRS properties. Depending on the availability of an 'affordability exemption' (i.e., lower cost cap), some areas could experience a starker shrinkage of the PRS sector. Much would depend on who purchases a property if a landlord chooses to sell as set out in Section 8.
- **There is no gaming, fraud or avoidance of the regulations.** Amongst the proposed updates to the PRS Regulations is the proposal to increase the maximum possible fine for non-compliance to £30,000 (per property and for each breach). This will act as a strong deterrent to landlords seeking to avoid their obligations through unscrupulous means. However, there will be some landlords who choose to risk getting the fine and it is recognised that local authority enforcement can only go so far. With respect to the available exemptions from meeting the MEES, there is also a risk of gaming. In particular, landlords may persuade their tenants or freeholder to say they do not consent to improvements being made.

38. Each of these assumptions will be looked at to see whether they can be refined in the final Impact Assessment (IA) of a future MEES. Here, in this consultation OA, the focus is on providing analysis to help consultees engage in the question of which EPC metrics should be used for the future MEES. Making the above strong assumptions is considered proportionate for this task.

39. As the outcomes presented in this OA are based on an optimistic view of how many properties will be upgraded, they are referred to as 'maximal outcomes'.

## 6. Modelled policy maximal outcomes

### 6.1. Single proxy-metric maximal outcomes

40. It is not the Government's preference to base higher standards for the PRS on a single EPC metric. However, the outcomes associated with using each metric on its own are presented here to emphasise the trade-offs between metrics. They are also a useful reference when looking at the outcomes for dual-metric standards, e.g., for understanding what drives average costs under a dual-metric approach.

41. Table 2 shows the maximal outcomes from modelling the upgrading of PRS properties against each proxy EPC metric, up to the standards set out in Table 1 and using a £15k cost cap. Table 2 also includes the estimated outcomes associated with Option 5 from Section 4 (EPCs are not reformed, and the higher standard is set at EPC C on the existing cost-metric).

**Table 2. Maximal outcomes from higher PRS standards based on single proxy-metrics and using a £15k cost cap (£ values in 2024 prices)<sup>39,40,41,42,43</sup>**

Summary outcomes	Current cost metric: EPC C	New cost metric: EPC C	Fabric metric: HP ready	Fabric metric: higher target	Smart metric: solar PV	Heat metric: heat pump
<b>Outcomes by 2030:</b>						
Properties upgraded (millions)	2.6	2.5	1.1	2.3	2.3	2.7
Undiscounted capital spend (£bn)	14.0	15.0	4.3	9.4	13.0	27.1
Average cost per property (£)	5,300	5,900	3,900	4,000	5,600	9,900
Average annual bill savings (£)	280	350	80	90	260	-170/-50
Out of fuel poverty (thousands)	774	537	32	200	545	253
<b>Outcomes by 2050:</b>						
Properties upgraded (millions)	2.6	2.9	1.1	2.6	3.0	3.6
Undiscounted capital spend (£bn)	15.9	19.2	4.4	10.2	17.1	34.2
Average cost per property (£)	6,000	6,600	3,900	4,000	5,600	9,600
<b>Non-traded carbon savings:</b>						
Carbon Budget 5 (MtCO <sub>2</sub> e)	3.1	2.3	0.7	1.8	0.0	19.3
Carbon Budget 6 (MtCO <sub>2</sub> e)	3.9	3.0	0.9	2.4	0.0	30.7
<b>NPVs &amp; BCRs (from 2025-2071):</b>						
Net-present value (NPV) (£m)	5,574	2,040	-389	-300	1,949	5,780
Benefit-cost ratio (BCR)	1.4	1.1	0.9	1.0	1.1	1.2
<b>Measures by 2030 ('000s):</b>						
Cavity wall insulation	231	206	155	436	-	-
Solid wall insulation	80	133	166	332	-	-
Loft insulation	327	380	195	488	-	-
Floor insulation	442	629	383	847	-	-
Double glazing	173	302	247	450	-	-
Draught proofing	875	2,137	1,033	2,167	-	-
Time temp zone controls	2,120	2,178	-	-	-	-
Room thermostat	201	235	-	-	-	432
Solar PV	1,013	955	-	-	2,307	-
New boiler	166	287	-	-	-	-
Heat pump	343	375	-	-	-	2,735

<sup>39</sup> In the outcomes sections of the table, costs and bill savings are not discounted with a social time preference rate. The values reflect what the actual future £ costs/savings would be in 2024 prices.

<sup>40</sup> Positive values for bill savings capture reductions in tenant household energy bills. Negative values represent increases in tenant household energy bills.

<sup>41</sup> Two possible average bill saving figures are provided where heat pumps are installed, with the latter accounting for savings on gas standing charges where a property is disconnected from the gas grid. In Autumn 2024, the gas standing charge was valued at £116 per year per customer.

<sup>42</sup> The numbers of households taken out of fuel poverty are provided for England only, where the low-income, low-energy efficiency (LILEE) definition of fuel poverty is used. The LILEE definition is based on the EPC cost metric (only households in properties below band C on the FPEER-cost metric, that is based on SAP, can count as fuel poor). Therefore, it is unsurprising that the current EER metric with a band C target performs best at alleviating fuel poverty on this definition. With alternative/updated definitions, other metrics could do better.

<sup>43</sup> In the case of the cost metric, the modelling also installed some hot water tank insulation, hot water tank thermostats, solar thermal systems and LED lights.

42. Some of the key trade-offs evident from Table 2 are:

- The fabric metric delivers moderate energy bill and carbon savings, but performs less well on reducing bills compared to the smart metric and less well on reducing carbon emissions compared to the heating metric.
- The smart metric (as defined) delivers the highest bill savings compared to the fabric and heating metrics, but does less directly for carbon savings. Indirectly, if more properties have solar and smart measures they would potentially be able to install heat pumps that cost less to run.
- The heating metric (as defined) delivers significantly higher carbon savings than the other metrics, but could end up raising bills for tenants (before any price rebalancing and not accounting for time-of-use tariffs).

43. Tables 3 and 4 show the modelled distributions of landlord costs out to 2030 and to 2050, respectively. The costs to 2030 are shown as they reflect what costs are like under a first round of improvement works before any landlord acquires a 10-year cost cap-based exemption. The costs to 2050 account for additional works that take place after landlords cost cap-based exemptions expire and landlords with current EPC C properties are brought into scope of the regulations over the 2030s (through 'grandfathering' of current EPC C compliance). Two key insights from these tables are:

- To 2030, the costs associated with the cost or fabric metrics are skewed towards the lowest cost categories, with this being most prominent for the fabric metric. The most common cost bracket is higher for the smart and heating metrics.
- As the smart and heating standards involve a single measure, there is no landlord that needs to spend more than £15k under these standards. However, under the cost and fabric metric multiple measures can be installed (especially under the cost metric), which means that some landlords can spend above £15k overall after initial exemptions expire (see Table 4).

**Table 3. Undiscounted upgrade costs by 2030 due to higher PRS standards based on single proxy-metrics with a £15k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2030:	Current cost metric: EPC C	New cost metric: EPC C	Fabric metric: HP ready	Fabric metric: higher target	Smart metric: solar PV	Heat metric: heat pump
£0 - £1,000	510	387	254	493	-	-
£1,000 - £2,000	162	124	226	440	-	-
£2,000 - £3,000	145	139	146	331	55	-
£3,000 - £4,000	240	277	108	208	321	-
£4,000 - £5,000	254	223	78	190	586	-
£5,000 - £6,000	263	214	59	147	494	-
£6,000 - £7,000	214	207	23	61	371	-
£7,000 - £8,000	136	142	29	60	174	482
£8,000 - £9,000	116	101	24	41	230	343
£9,000 - £10,000	229	239	29	51	76	471
£10,000 - £11,000	162	172	23	56	-	852
£11,000 - £12,000	78	90	51	86	-	322
£12,000 - £13,000	64	120	37	81	-	184
£13,000 - £14,000	60	89	31	86	-	77
£14,000 - £15,000	3	10	3	3	-	2
Over £15,000	-	-	-	-	-	-

**Table 4. Undiscounted upgrade costs by 2050 due to higher PRS standards based on single proxy-metrics with a £15k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2050:	Current cost metric: EPC C	New cost metric: EPC C	Fabric metric: HP ready	Fabric metric: higher target	Smart metric: solar PV	Heat metric: heat pump
£0 - £1,000	506	518	261	573	-	-
£1,000 - £2,000	162	144	228	498	-	-
£2,000 - £3,000	137	161	147	366	69	-
£3,000 - £4,000	221	284	107	219	453	-
£4,000 - £5,000	248	222	80	204	773	-
£5,000 - £6,000	241	213	58	154	652	-
£6,000 - £7,000	205	200	23	67	481	101
£7,000 - £8,000	125	123	28	62	233	727
£8,000 - £9,000	106	130	24	40	285	461
£9,000 - £10,000	205	269	29	52	101	773
£10,000 - £11,000	146	146	23	58	-	890
£11,000 - £12,000	53	99	50	93	-	332
£12,000 - £13,000	66	103	36	77	-	208
£13,000 - £14,000	47	64	28	88	-	77
£14,000 - £15,000	22	41	6	19	-	2
Over £15,000	150	208	6	10	-	-



## 6.2. Options 1 and 2 maximal outcomes

44. Table 5 presents scenario-based maximal outcomes associated with Policy Option 1 (preferred) as well as Options 2a, 2b and 2c.

**Table 5. Maximal outcomes for scenarios associated with Options 1, 2a, 2b and 2c with a £15k cost cap (£ values in 2024 prices)<sup>44</sup>**

Summary outcomes	Option 1 / Option 2a		Option 2b		Option 2c
	Scenario 1: HP ready fabric then smart	Scenario 2: Higher fabric then smart	Scenario 3: HP ready fabric then heating	Scenario 4: Higher fabric then heating	Scenario 5: Smart then heating
<b>Outcomes by 2030:</b>					
Properties upgraded (millions)	2.8	3.1	3.0	3.1	3.0
Undiscounted capital spend (£bn)	16.9	20.7	27.3	28.3	24.8
Average cost per property (£)	6,100	6,800	9,100	9,000	8,200
Average annual bill savings (£)	240	240	-90/+30	-20/+100	140/260
Out of fuel poverty (thousands)	555	554	285	382	603
<b>Outcomes by 2050:</b>					
Properties upgraded (millions)	3.5	3.9	3.8	4.0	4.0
Undiscounted capital spend (£bn)	21.5	27.3	37.7	42.7	48.3
Average cost per property (£)	6,100	7,000	9,900	10,700	12,200
<b>Non-traded carbon savings:</b>					
Carbon Budget 5 (MtCO <sub>2</sub> e)	0.7	1.8	17.2	14.9	8.0
Carbon Budget 6 (MtCO <sub>2</sub> e)	0.9	2.4	28.0	24.8	13.1
<b>NPVs &amp; BCRs (from 2025-2071):</b>					
Net-present value (NPV) (£m)	1,568	1,593	6,253	5,424	9,321
Benefit-cost ratio (BCR)	1.1	1.1	1.2	1.1	1.2
<b>Measures by 2030 ('000s):</b>					
Cavity wall insulation	155	436	155	436	-
Solid wall insulation	166	332	166	332	-
Loft insulation	195	488	195	488	-
Floor insulation	383	847	383	847	-
Double glazing	247	450	247	450	-
Draught proofing	1,033	2,167	1,033	2,167	-
Time temp zone controls	-	-	-	-	-
Room thermostat	-	-	341	282	226
Solar PV	2,232	2,034	-	-	2,307
New boiler	-	-	-	-	-
Heat pump	-	-	2,389	2,006	1,285

45. The outcomes of Option 1 and Option 2a are presented as being identical on the basis that under Option 1 the vast majority of landlords will prefer meeting the 'smart' standard as opposed to the 'heating' standard (they have a choice for their secondary standard). This is expected due to the lower costs of solar PV compared to heat pumps (see Table 3), which is further compounded by current tax rules that offer landlords tax deductions

<sup>44</sup> Two possible average bill saving figures are provided where heat pumps are installed, with the latter accounting for savings on gas standing charges where a property is disconnected from the gas grid. Bill savings are reported as positive.

on replacing existing heating systems like-for-like.<sup>45</sup> However, some landlords will choose to install heat pumps under Option 1<sup>46</sup>, so note that there will be a divergence between Options 1 and 2a in practice on key outcomes, including bill savings and carbon savings. The carbon benefits of landlords electing to install heat pumps over solar PV are apparent from the outcomes of Option 2b.

46. Under scenarios 1 and 2 in Table 5, landlords are modelled to upgrade their properties to the stated fabric standard before moving onto installing solar PV (where appropriate) to comply with the smart standard. However, if a property already achieves the stated fabric standard or there are no suitable fabric measures, landlords are modelled to install solar PV only. Under Option 2a, some landlords may decide to install solar PV first before undertaking fabric improvements which, due to the £15k cost cap, would act to increase solar PV deployment at the expense of some fabric improvements. The results of this alternative strategy being adopted by all landlords are presented in Annex C. Overall, the results are very similar.
47. Under scenarios 3 and 4 (for Option 2b), landlords are modelled to upgrade their properties to the stated fabric standard before moving onto installing heat pumps (where appropriate) to comply with the heating standard. Again, some landlords may decide to install a heat pump first before undertaking fabric improvements. The results of this alternative strategy being adopted by all landlords are presented in Annex C. However, we would not expect many landlords to adopt this strategy. Improving a property's fabric performance can lower the costs of switching a property to a heat pump (either by reducing the size of the heat pump required and/or emitters) so it would mostly make sense for landlords to improve their property's fabric first. Additionally, for many landlords, installing a heat pump first could only temporarily delay installing fabric measures given that cost cap-based exemptions expire after 10 years.
48. Under scenario 5 (for Option 2c), landlords are modelled to upgrade their properties to the stated smart standard (installing solar PV) before moving onto the heating standard (installing heat pumps). The results of landlords doing the reverse are presented in Annex C.
49. The key insights from Table 5 are:
  - **Properties upgraded:** All options would require around 3 million PRS properties to be upgraded by 2030 (before any non-cost cap based exemptions are accounted for).
  - **Costs:** The average landlord cost under the preferred Option 1 is estimated to be between £6,100 and £6,800, depending on the fabric standard. The options that require heat pumps are associated with higher costs.
  - **Bill savings and fuel poverty impacts:** Options 1/2a deliver the highest average bill saving for tenants. Option 2c takes the greatest number of PRS tenant households out of fuel poverty, though note that behind this are differential impacts for households that can have solar PV and households that cannot. For households living in properties

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<sup>45</sup> Replacing a broken boiler is treated as a repair cost expense that a landlord can deduct from their rental income when working out their taxable rentable profit. See: <https://www.gov.uk/guidance/income-tax-when-you-rent-out-a-property-working-out-your-rental-income>.

<sup>46</sup> Ahead of the final IA on a future MEES, we will explore whether new evidence can be collected on landlords' preferences between measures, particularly solar PV vs heat pumps in the context of Option 1.

that cannot have solar PV, the installation of a heat pump may raise their heating bills (before any price rebalancing and not accounting for time-of-use tariffs).

- **Carbon savings:** The differences in carbon savings between the options are stark. The options that require heat pumps deliver carbon savings that are orders of magnitude greater than options that do not.
- **Benefit-cost ratios:** The benefit-cost ratios (social benefits divided by social costs) are all very similar. Each option has a positive NPV (social benefits exceed social costs).

50. Tables 6 and 7 show the modelled distributions of landlord costs out to 2030 and to 2050, respectively for Options 1, 2a, 2b and 2c. These again reflect the higher costs associated with the options that require heat pumps.

**Table 6. Undiscounted upgrade costs by 2030 for scenarios associated with Options 1, 2a, 2b and 2c with a £15k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2030:	Option 1 / Option 2a		Option 2b		Option 2c
	Scenario 1: HP ready fabric then smart	Scenario 2: Higher fabric then smart	Scenario 3: HP ready fabric then heating	Scenario 4: Higher fabric then heating	Scenario 5: Smart then heating
£0 - £1,000	107	217	78	155	-
£1,000 - £2,000	48	57	48	49	-
£2,000 - £3,000	88	120	51	78	6
£3,000 - £4,000	320	238	57	85	66
£4,000 - £5,000	521	393	67	130	362
£5,000 - £6,000	434	337	47	109	450
£6,000 - £7,000	357	325	23	61	365
£7,000 - £8,000	225	290	493	351	354
£8,000 - £9,000	242	269	321	175	291
£9,000 - £10,000	153	197	428	441	189
£10,000 - £11,000	69	166	703	443	207
£11,000 - £12,000	79	153	279	377	278
£12,000 - £13,000	78	169	234	398	243
£13,000 - £14,000	41	127	138	251	197
£14,000 - £15,000	3	3	19	34	7
Over £15,000	-	-	-	-	-

**Table 7. Undiscounted upgrade costs by 2050 for scenarios associated with Options 1, 2a, 2b and 2c with a £15k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2050:	Option 1 / Option 2a		Option 2b		Option 2c
	Scenario 1: HP ready fabric then smart	Scenario 2: Higher fabric then smart	Scenario 3: HP ready fabric then heating	Scenario 4: Higher fabric then heating	Scenario 5: Smart then heating
£0 - £1,000	109	241	78	176	-
£1,000 - £2,000	50	70	40	41	-
£2,000 - £3,000	103	142	30	52	6
£3,000 - £4,000	450	355	13	26	26
£4,000 - £5,000	707	551	18	26	40
£5,000 - £6,000	587	463	12	13	93
£6,000 - £7,000	463	435	108	93	141
£7,000 - £8,000	285	347	709	496	305
£8,000 - £9,000	292	309	425	273	180
£9,000 - £10,000	171	210	715	661	225
£10,000 - £11,000	62	139	718	445	299
£11,000 - £12,000	69	126	253	348	372
£12,000 - £13,000	58	124	241	415	511
£13,000 - £14,000	28	83	183	322	637
£14,000 - £15,000	16	63	69	140	398
Over £15,000	65	223	212	474	745

## 7. Cost-benefit analysis results

51. Table 8 provides a breakdown of the monetised costs and benefits used to assess the value for money of the alternative policy options. In all scenarios, updating the PRS Regulations to a higher standard is expected to yield net-positive impacts. There is little difference between the options in terms of their benefit-cost ratios.

**Table 8. Discounted costs and benefits associated with the maximal outcomes for Options 1, 2a, 2b and 2c with a £15k cost cap (£m, 2024 prices)**

Social CBA results (2025 present-values, 2025–2071 appraisal period)	Option 1 / Option 2a		Option 2b		Option 2c
	Scenario 1: HP ready fabric then smart	Scenario 2: Higher fabric then smart	Scenario 3: HP ready fabric then heating	Scenario 4: Higher fabric then heating	Scenario 5: Smart then heating
<b>Discounted costs:</b>					
Capex of installing measures	15,342	19,109	20,241	23,418	27,023
Capex of re-installing measures	4,433	4,678	14,591	13,792	14,150
Landlord hassle costs from measure installs/re-installs	811	1,171	1,765	2,074	1,744
Tenant hassle costs from measure installs/re-installs	138	194	325	371	339
Policy familiarisation costs for landlords	40	40	40	40	40
Landlord time costs from registering exemptions	12	28	13	29	36
<b>Total discounted costs:</b>	<b>20,777</b>	<b>25,220</b>	<b>36,975</b>	<b>39,724</b>	<b>43,332</b>
<b>Discounted benefits:</b>					
LRVC energy savings	19,012	19,719	-7,842	-5,803	10,706
Air quality benefits	247	446	1,614	1,648	1,046
Traded carbon savings	669	640	-1,119	-916	21
Non-traded carbon savings	1,546	3,979	48,494	47,094	39,780
Tenant comfort benefits	304	709	303	709	7
Mortality benefits	301	698	988	1,318	619
Morbidity benefits	265	623	790	1,097	476
<b>Total discounted benefits:</b>	<b>22,345</b>	<b>26,813</b>	<b>43,228</b>	<b>45,148</b>	<b>52,653</b>
<b>Value for money metrics:</b>					
<b>Net-present value (NPV) (£m)</b>	<b>1,568</b>	<b>1,593</b>	<b>6,253</b>	<b>5,424</b>	<b>9,321</b>
<b>Benefit-cost ratio (BCR)</b>	<b>1.08</b>	<b>1.06</b>	<b>1.17</b>	<b>1.14</b>	<b>1.22</b>

## 8. Wider impacts on the PRS market

52. Introducing higher energy performance standards in the PRS will raise the cost of supplying properties to the sector.

We are unable to quantify the extent to which this will impact the supply of dwellings, though, as supply is determined by a wide range of factors. These include rent levels, house prices, taxation policy, interest rates, returns on other investment options, wider reforms in the sector and the movements of tenants into homeownership and social rented housing. The cost of complying with these regulations is just one of many considerations

landlords need to factor into their financial decision-making. We lack evidence that will enable us to robustly assess the impact of this reform relative to other changes in the sector and the economy.

53. Additionally, landlords are not one homogenous group – business models vary and so do their motivations for being landlords. The level of costs they face will also differ depending on the characteristics of each property. This means each landlord will likely have a different response to the introduction of higher energy performance standards.
54. Therefore, we are not able to robustly quantify how landlords will respond to the changes. However, we think they may choose to do one or more of the following:

#### **Absorb the costs:**

55. Landlords may be willing to absorb the costs of improving energy performance standards if they know the costs could be offset by an increase in asset value. Various studies have found that energy-efficient properties have sold at a premium relative to less energy-efficient properties. For instance:
- Fuerst et al. (2013) found that compared to otherwise similar properties rated EPC G, more energy-efficient properties had a higher sale price per square metre and the price differential increased with EPC band. Properties rated EPC E/F sold for 6% more, EPC D properties for 8% more, EPC C properties for 10% more and EPC A/B properties for 14% more.<sup>47</sup> The study was based on data of property sales in England from 1995 to 2011.
  - Fuerst and Adan (2020) found that properties rated EPC B/C sell for a 4.7-4.9% premium per square metre relative to EPC D properties. This was based on data of property sales in England from 1995 to 2013. The authors also found the price differential was increasing over time – controlling for general increases in price over time, the authors found that the average appreciation of EPC B/C properties between two sales was 5.9 percentage points higher than for EPC D properties.<sup>48</sup>
  - Hill et al. (2023) found that about 84% of the costs of EPC-recommended energy efficiency improvements are capitalised in property prices for flats, with 59% of costs capitalised in semi-detached/terrace and detached properties.<sup>49</sup> The study was based on data of property sales in England and Wales from 2014 to 2022.
56. Note that due to limitations in data, the above studies were not able to conclusively infer a direct causal relationship between improving a property's energy efficiency and its sale price. However, the external evidence suggests a strong association.
57. Some landlords may not see the benefit of a higher asset price until they sell their property. However, depending on their business models, some landlords may decide to borrow

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<sup>47</sup> Fuerst et al. (2013). An investigation of the effect of EPC ratings on house prices – final project report for DECC.

Available at: <https://www.gov.uk/government/publications/an-investigation-of-the-effect-of-epc-ratings-on-house-prices>

<sup>48</sup> Fuerst and Adan (2020). Do house prices and rents in the private rented sector reflect energy efficiency levels? – final project report for BEIS. Available at: <https://www.gov.uk/government/publications/house-prices-private-sector-rents-and-energy-efficiency-levels>

<sup>49</sup> Hill et al (2023). Energy efficiency improvements and property values: a hedonic analysis of market incentives in England and Wales. Available at: <https://www.escoe.ac.uk/publications/energy-efficiency-improvements-and-property-values-a-hedonic-analysis-of-market-incentives-in-england-and-wales/>

more against the value of the property hence realise the benefits of higher asset prices sooner.

58. Some landlords place a greater emphasis on asset value, whereas others may be using their rental income to fund retirement. In the English Private Landlord Survey 2024 it was found that the most common way landlords saw their own role was as making a long-term investment to contribute to their pension (56%), followed by an investment for rental income (48%), and an investment for capital growth (27%). Additionally, the two most prevalent reasons given for why respondents originally became a landlord were as a pension contribution (42%) and a preference for investing in property rather than other investments (42%), whilst 13% of landlords wanted to build equity for their children.<sup>50</sup> We expect cost absorption to be more likely for landlords that care more about asset value.
59. However, this is dependent on landlords being able to absorb these additional costs. The market for loans encouraging home energy efficiency improvements is evolving. This is something the government is exploring encouraging further through the Warm Homes Plan.

### **Increase rents:**

60. Alternatively, it is possible that some landlords may pass some of the costs through to tenants in the form of higher rents. However, the chance of this happening is dependent on a number of factors.
61. Whilst a tenant may still prefer one dwelling over another, the fact that they could move elsewhere means different PRS properties are still substitutes for each other. Therefore, PRS landlords are engaging in monopolistic competition with each other and landlords cannot unilaterally set the rent of their property at whatever level they wish. This means the extent to which they can pass through the increased costs depends on the proportion of landlords facing additional costs, and will be limited by what the market can bear.
62. There may also be the unintended consequence that landlords whose properties are not affected by these reforms may also decide to increase rents if market rents were to rise. In the latest English Private Landlord Survey, the most common rationale given by landlords who increased rent for their most recent letting was they set rent in line with the market rate in their area (79%).<sup>51</sup>
63. The degree to which landlords can pass costs through into rents is dependent on whether tenants are able and willing to pay higher rent levels. In 2023-24, just under a third of private renters (32%) reported finding it either fairly or very difficult to afford their rent.<sup>52</sup> This, coupled with an expected slowdown in real wage growth<sup>53</sup> and significant rises in rents in recent years,<sup>54</sup> means there may be limited scope for tenants to pay higher rent levels and therefore for landlords to charge them.
64. This is likely to be most true for areas with the lowest levels of demand and for tenants with lower incomes. In 2022-23, just under three-quarters (72%) of private renters in the lowest two income quintiles spent 30% or more of their income on rent. This represents approximately 1.2 million private renting households across England with low incomes

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<sup>50</sup> [MHCLG, English Private Landlord Survey 2024](#) – Annex table 1.15. Figures may not sum to 100% as respondents could select more than one answer.

<sup>51</sup> English Private Landlord Survey 2024

<sup>52</sup> English Housing Survey 2023-24

<sup>53</sup> Office for Budgetary Responsibility Economic and Fiscal Outlook October 2024

<sup>54</sup> Office for National Statistics, Private rent and house prices, UK: November 2024

and high housing costs. Nearly all (94%) private renters living in London who were in the lowest two income quintiles spent more than 30% of their income on rent.<sup>55</sup>

65. Under most options, tenants are expected to see a reduction in their energy bills due to higher energy performance standards. Tenants therefore may be more willing to accept an increase in rents in exchange for lower energy bills. This is dependent on the level of costs passed through to rents as well as tenants ability to accurately compare the trade-off between the rise in rents and expected energy savings. To illustrate this, under Option 1 Scenario 2 (higher fabric standard and landlords choose smart), tenants could expect to see a £240 annual saving in energy bills. However, under some options such as Option 2b Scenario 3 (HP ready fabric standard followed by heating) tenants may see an increase in energy bills. This is not the preferred option.
66. Under the Renters' Rights Bill there will be new regulations governing rent rises. Landlords will in future only be able to increase rents once a year via the section 13 process and tenants who receive a rent increase that they feel is not representative of the market value will be able to challenge the increase at the First-tier Tribunal. These additional regulations may result in fewer landlords choosing to raise rents to cover the costs of higher energy performance standards.
67. Given the number of uncertainties listed above as well as the inherent uncertainties surrounding the standards landlords will need to meet, we are unable to give a definitive, objective view on how much rent will be passed onto tenants. However, past surveys of landlords have suggested landlords may exercise restraint in asking their tenants to bear their property improvement costs. For instance:
- In 2021, DESNZ (then part of BEIS) surveyed Welsh landlords asking them whether they would put their rents up if faced with different amounts of improvement cost due to a new MEES. Based on a £5,000 improvement cost, 47% said they would not raise rents, 37% said they would increase rents to recover some of the cost, and 16% said they would increase rents to cover most of the cost. The survey was conducted with landlords registered with Rent Smart Wales and collected 755 responses.
  - The interim evaluation of the current PRS Regulations found that the majority of landlords expected to pay for the improvement works to meet EPC E through their savings (70%), with only 11% saying they would pay for the works by putting up rents.<sup>56</sup>
68. In the cases where landlords do pass on costs to rents, the impacts will depend on how much of the costs are passed through. This will be dependent on landlord-specific circumstances, such as their level of savings and access to loan finance, as well as the level of competition in the area in which the property is located. For instance, interest-only mortgages are often used in the buy-to-let market, which would reduce the annual costs landlords are exposed to through complying with these regulations, compared to taking out a short-term unsecured repayment loan. As a result, it is not possible to outline a probable average level of costs passed through to tenants, nor how quickly landlords would look to recoup these costs if they did plan to pass some of them on to tenants.
69. Typically, potential rent increases would be expected to be lower/higher where landlords face below/above average improvements costs due to a higher MEES, all else equal. However, as stated above, PRS landlords are engaging in monopolistic competition with

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<sup>55</sup> English Housing Survey 2022-23: rented sectors

<sup>56</sup> [PRS Interim Evaluation](#)



each other. Therefore, for the subset of landlords with amongst the highest improvement costs (e.g., above £10k under Option 1 Scenario 2), they are likely to be constrained in how much of their costs they can pass through relative to the majority of landlords with lower relative costs. On the other hand, landlords with the lowest improvement costs could potentially have more scope to pass a higher proportion of their costs on.

### **Sell their properties:**

70. Lastly, landlords may decide to exit the market. The likelihood of this is dependent on the current profitability of their rental property, the level of costs they face, the price landlords would receive from the sale of their property and their wider financial circumstances. These factors will vary across the country.
71. Ferentinos et al. (2021) found that the prices of EPC F/G PRS properties affected by the current regulations (requiring PRS properties to be EPC E) decreased by about £5,000 to £9,000, relative to unaffected properties. If a similar situation were to arise in the context of higher MEES standards, landlords may decide it is more profitable to improve properties and remain as landlords. However, landlords who face the highest costs may decide, on balance, it is still less costly to sell their property than comply with the higher energy performance standard.
72. If some landlords do decide to sell and those properties are sold to other landlords, supply in the PRS will remain unchanged. This transfer might even be associated with increased efficiency or professionalisation of the sector, particularly if the reforms encourage rogue landlords to leave the sector who are replaced with responsible landlords. This may also reset any pre-existing exemptions which could mean the objectives of the policy may be met quicker.
73. If a proportion of these properties are sold to homeowners, PRS supply would decrease. This will have a neutral net impact on prices in the sector if this results in tenants leaving the PRS to become homeowners. Yet, properties in the owner-occupied sector do not need to meet the higher energy performance standards so there is less of a guarantee that the policy will meet its objectives.
74. A reduction in PRS supply could enable existing landlords to put up their rent levels. However, an increase in rents may incentivise more landlords to enter the market which could go some way to offset the initial decrease in supply and increase competition, putting downward pressure on rents. However, as with rent pass through, this is dependent on a range of market factors.

## **9. Workforce impacts**

75. Implementing higher energy standards will likely require additional skilled workers such as glaziers, solar panel fitters and heating engineers, to make the required changes to a property. This is alongside increased demand for the construction workforce from the Decent Homes Standard, Awaab's Law, the ambition to build 1.5 million homes over this Parliament (July 2024 – July 2029) and wider remediation work.
76. The work required to increase energy performance standards may overlap with the work needed to meet the Decent Homes Standard. However, we still expect there to be significant demands for construction workers. This will push up wages, particularly for certain trade types, which in turn will increase the cost of MEES for landlords.

77. In the long run, higher wages in the construction sector will incentivise more people to train in these professions which should cause wage growth in the construction sector to slow. However, there are expected to be short term cost implications, particularly given the number of properties affected by the reform and similar timing of other policies that will also make demands on the construction workforce. The impact will also likely vary by region, depending on the current energy performance of PRS properties and the local workforce.

## 10. Regulatory scorecard for preferred option

### Part A: Overall and stakeholder impacts

(1) Overall impacts on total welfare		Directional rating
<b>Description of overall expected impact</b>	The preferred option is expected to have a net-positive impact on societal welfare. The benefits associated with reduced energy needs, lower carbon emissions, better health and comfort for tenants are expected to outweigh property upgrade costs and other policy costs.	<b>Positive</b>
<b>Monetised impacts</b>	Total NPSV: £1.57bn - £1.60bn A breakdown of monetised impacts can be found in Table 8.	<b>Positive</b>
<b>Non-monetised impacts</b>	Non-monetised societal costs include: <ul style="list-style-type: none"> <li>• Costs to local authorities of enforcing the regulations.</li> <li>• Costs to the courts in cases where landlords challenge any fines for non-compliance.</li> </ul> Non-monetised societal benefits include: <ul style="list-style-type: none"> <li>• Improved energy security.</li> </ul>	<b>Uncertain</b>
<b>Any significant or adverse distributional impacts?</b>	Distributional impacts are uncertain as they depend on the extent to which landlords (a relatively richer cohort in society) pass on costs to tenants (a relatively poorer cohort). Should the benefits to tenants (energy bill savings and comfort benefits) outweigh any potential rent increases, the policy will be progressive.	<b>Uncertain</b>
(2) Expected impacts on businesses		
<b>Description of overall business impact</b>	Letting private property is a business activity <sup>57</sup> , which will be negatively impacted by such properties needing to meet higher energy performance standards. Landlords will incur costs upgrading their properties to the new MEES. Most of the cost will relate to the capital expense of installing measures.	<b>Negative</b>
<b>Monetised impacts</b>	Business NPV: -£25.0bn to -£20.6bn This does not account for any pass through of landlord costs to tenants.	<b>Negative</b>
<b>Non-monetised impacts</b>	Landlords are likely to benefit from appreciation in the values of their properties and increased rental income which has not been monetised in the analysis.	<b>Positive</b>

<sup>57</sup> Profits from UK land or property are treated, for tax purposes, as arising from a business. See: <https://www.gov.uk/hmrc-internal-manuals/property-income-manual/pim1020>

<p><b>Any significant or adverse distributional impacts?</b></p>	<p>According to the English Housing Survey 2024, 83% of landlords own between 1-4 properties. 45% own one property. Given this, it seems appropriate to make the conservative assumption that all landlords can be classified as small or micro businesses (SMBs). The proposed policy would therefore impact SMBs.</p> <p>However, since the costs to a landlord of complying with the regulations will scale proportionality to the number of sub-standard properties they own, there should not be a differential burden on smaller landlords compared to larger landlords.</p>	<p><b>Neutral</b></p>
<p><b>(3) Expected impacts on households</b></p>		
<p><b>Description of overall household impact</b></p>	<p>Tenant households are expected to benefit from lower energy bills and warmer properties. Due to living in warmer surroundings, tenant health will also be improved. The extent to which lower energy bills and comfort benefits outweigh the possibility of some cost-pass through from landlords will depend on the consultation options chosen.</p>	<p><b>Uncertain</b></p>
<p><b>Monetised impacts</b></p>	<p>Household NPV: £22.0bn to £24.4bn This does not account for any pass through of landlord costs to tenants in the form of higher rents.</p>	<p><b>Positive</b>  <b>Based on likely household £NPV</b></p>
<p><b>Non-monetised impacts</b></p>	<p>Potential increases in rents have not been captured in the monetised impacts to households.</p>	<p><b>Negative</b></p>
<p><b>Any significant or adverse distributional impacts?</b></p>	<p>In aggregate, private renters are a poorer cohort compared to owner-occupiers who make up the majority of households. As such, the proposed policy would benefit most those on relatively low-incomes.</p>	<p><b>Neutral</b></p>

**Part B: Impacts on wider government priorities**

Category	Description of impact	Directional rating
<p><b>Broader business environment:</b> Does the measure impact on the ease of doing business in the UK?</p>	<p>In Part A, the impacts of a higher MEES on landlord businesses were described. All else the same, the proposed policy is likely to reduce the attractiveness of letting properties in the PRS and increase the barrier to entry. Market concentration would be reduced if landlords leave the sector.</p> <p>With respect to the broader business environment (on which the directional rating here is based), the impact of the policy is less certain.</p> <p>On the one hand, the policy could worsen the broader business environment. The PRS plays an important role in the geographic mobility of labour, so any material reduction in the PRS could in principle create difficulties in getting labour to</p>	<p><b>Uncertain</b></p>

	<p>where it is needed. Another area of uncertainty is how the policy will impact on the cost of living for private renters and, in turn, how this could affect the demand for higher wages. If energy bill savings do not offset any potential rent increases, employers may need to offer higher wages to attract/retain employees.</p> <p>Alternatively, the policy could improve the business environment. If the energy bill savings from the policy lead to a lower net cost of living for private renters, they will be made better off and their spending power will increase, and/or they could be more likely to accept lower relative growth of their wages. Improvements to energy security due to lower energy consumption and/or greater energy generation in the PRS will also be beneficial for businesses across the country. Further, warmer homes for private renters will make them less susceptible to cold-related health conditions, leading to potentially less economic inactivity and more productive workers.</p>	
<p><b>International Considerations:</b> Does the measure support international trade and investment?</p>	<p>The proposed regulation is expected to have a neutral (neither positive or negative) impact on international trade and investment.</p>	<b>Neutral</b>
<p><b>Natural capital and Decarbonisation:</b> Does the measure support commitments to improve the environment and decarbonise?</p>	<p>The proposed regulation will help the UK towards its Net Zero goal.</p>	<b>Supports</b>

## 11. Risks and uncertainties

78. There are significant uncertainties with the analysis as presented, above. Much of this stems from the as yet to be determined RdHEM-based EPC metrics and what landlords will need to do to comply with them.
79. There is less uncertainty with the fabric-based elements of the scenarios, since these are likely to be closer to the final RdHEM metric than the smart or heat options. Because the smart and heat metrics are based around single measure installations (solar PV and heat pumps, respectively), the results are more polarised than if the metric had more compliance points.
80. Also uncertain is how landlords will respond to the metrics options when presented to them. Assumptions have been made in the modelling for how they will choose various measure installations to comply with the regulations, but this could be very different to how they respond in practice. The impact of grandfathering and the cost cap are both

very unclear at this stage, although the uncertainty reduces the longer the regulations are in place: grandfathering effects drop-out once all RdSAP-based EPCs are renewed with RdHEM versions, and landlords will likely prefer to meet the metrics sooner rather than incur rolling 5-year cost caps.

81. Another uncertainty relates to the time between this consultation and the implementation of the regulations. Changes in the market's appetite for certain measures could lead to greater numbers of installations as business as usual, which could reduce the marginal impact of these regulations. For instance, insulation is often installed alongside other measures when renovation works are being done; solar PV is being taken-up by households without the need for any government support at present; and heat pumps are likely to form the basis of much of the housing sector's decarbonisation path, installation of which could gain momentum by the late 2020s.

## **12. Minimising administrative and compliance costs**

82. We are currently developing a service to replace the existing PRS MEES Exemptions Register, to improve functionality and usability. The existing register was developed in 2017 and has been owned, hosted and maintained by the same supplier since then. We have identified a number of potential improvements following an assessment of the service and engagement with users, to make the new register more user-friendly. We will also improve the website used to access the register and provide clearer guidance on how to use the register and comply with PRS MEES more generally. The benefits of this improved service are that it will reduce the time it takes for landlords to register for a valid exemption and enable them to submit the correct evidence required, which in turn will support engagement with local authorities for the purposes of demonstrating compliance. We are also reviewing the functionality of the register for local authorities, seeking feedback on what features would improve their experience and aid in checking compliance before taking further enforcement action. This will improve the efficiency of local authorities' engagement with landlords on PRS MEES.
83. Through redevelopment of the register, we are also aiming to better integrate the service with other relevant government services, with the possibility of utilising shared data to reduce input required from landlords and enable local authorities to check compliance more accurately and efficiently. This includes options for linking up with the Energy Performance of Buildings Register (the service that hosts EPCs) and the Private Rented Sector Database currently in development. Further to this we are reviewing options for commonality across government services including the use of One Login, Unique Property Reference Numbers. This would help reduce burdens on local authorities via single log in options across services, speeding up access, and having a system of easily identifying properties in different data sets.
84. The consultation on 'Reforms to the Energy Performance of Buildings Regime' also seeks views on proposals relating to the management of EPC data and the administration of EPCs that may help reduce the burden on landlords to comply with MEES.

## **13. Monitoring and evaluation**

85. We plan to evaluate the proposed changes to the regulations looking at both how they are implemented (e.g. landlord awareness and compliance) and the impact they have

(e.g. impact on energy consumption). Both the use of new metrics and other aspects of the policy which are developed will be evaluated.

86. Monitoring will be particularly important to understand how the new regulations are working. A combination of top-down monitoring of trends through national databases and bottom-up monitoring of landlord behaviour through bespoke landlord surveys will be used. Process evaluation will also be important to assess awareness, compliance and landlord behaviour including motivations and barriers.
87. Existing sources of data for monitoring and evaluation will include the exceptions register, EPC data (from the EPC register as well as use of MHCLGs English Housing Survey) and National Energy Efficiency Data-framework.
88. We will also collect new data as part of the evaluation, in particular surveys and interviews with landlords. Landlord surveys will be an important source of data about how landlords behave as a result of the regulations e.g. what measures they install, how much these cost. We plan to start landlord surveys before the regulations are in force to understand behaviour of landlord in advance of the regulations.
89. Evaluation questions we will be exploring may include: awareness and understanding the regulations; compliance; enforcement activities; how landlords behave as a result of the regulations; levels of exemption; the impact of cost caps on landlord activity; choice of measures and rationale for these; impact of the regulations overall on energy efficiency of private rented properties.
90. An evaluation of the current regulations is underway. The [interim report](#) was published in 2021 and the evaluation will be completed and published in 2025. Details of the findings from the evaluation so far can be found in section 2.3, above.
91. The evaluation work will be scoped and developed further starting with development of the theory of change and establishment of evaluation questions and data sources. We would plan to commission the evaluation to an independent contractor.
92. A post-implementation review of the policy will be carried out after 5 years. This will allow us to understand how landlords have responded to the PRS Regulations and assess how the policy objectives have been met and what the impacts have been to date. It will draw on the monitoring and evaluation evidence.

## Declaration

Department:

Contact details for enquiries:

Director responsible:

I have read the Options Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed:

*J. B. M. Beck*

Date:

29 January 2025

## Annex A. Current exemptions under the PRS Regulations

93. The existing PRS Regulations make provision for a number of exemptions in circumstances where properties cannot reasonably meet the MEES. The available exemptions are:

- **'All relevant improvements made'** – this applies where a landlord has made all the relevant improvements to their property subject to the cost cap and the property remains below standard. The exemption also applies where no improvements can technically be made.
- **'High cost'** – this applies where the cost of making even the cheapest recommended improvement would exceed the cost cap.
- **'Wall insulation'** – this applies where the only relevant improvement for a property is cavity wall insulation, external wall insulation or internal wall insulation (for external walls) and the landlord has obtained written expert advice that the measure is not appropriate due to its potential negative impact on the fabric or structure of the property.
- **'Third-party consent'** – this applies where a landlord requires the consent of another party, such as a current tenant, superior landlord / freeholder, mortgage lender or local authority, to make relevant improvements and this consent is refused, or granted subject to a condition that the landlord cannot reasonably comply with.
- **'Property devaluation'** – this applies where the landlord has obtained a report from an independent surveyor advising that the installation of specific measures would reduce the market value of the property, or the building it forms part of, by more than five percent.

- **‘New landlord’** – this currently applies under a number of specific circumstances<sup>58</sup> where a person becomes a landlord and provides a temporary exemption (6 months from the date of becoming a landlord) on letting a sub-standard property. The accompanying consultation sets out how the Government will simplify and broaden this exemption to include any person who becomes the landlord of a property let on an existing tenancy.

94. Where an exemption applies, this must be registered on the MEES Exemptions Register<sup>59</sup> and accompanied by suitable evidence to demonstrate the property is eligible for the exemption. The registration is made on a self-certification basis, with local authorities responsible for checking registered exemptions are valid.

95. Exemptions are valid for 5 years from the point at which they are registered on the MEES Exemptions Register (excluding the ‘new landlord’ exemption, which lasts for 6 months from the date when a person becomes a landlord). However, exemptions can expire earlier, when either:

- i) A let property is sold or transferred to a new owner or landlord. When this occurs, any existing exemptions will cease to be effective, and the new owner will need to either bring the property up to standard or register their own exemption (if applicable) to continue letting the property. Landlords cannot count the spend of previous owners as part of a cost cap-based exemption (i.e., the cost cap ‘resets’ when the property is transferred).
- ii) An existing tenant who refused to consent to improvements being made moves out of the property. When the existing tenant leaves, the applicable ‘third-party consent’ exemption will expire. The landlord will then need to either bring the property up to standard or register a different exemption before letting the property on a new tenancy.

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<sup>58</sup> The circumstances which are currently relevant for the ‘new landlord’ exemption can be found in the exemptions guidance, available at: <https://www.gov.uk/government/publications/private-rented-sector-minimum-energy-efficiency-standard-exemptions>

<sup>59</sup> <https://prsregister.beis.gov.uk/>



## Annex B. Maximal policy outcomes with a £10k cost cap

96. This Annex provides the estimated maximal outcomes associated with using a £10k rather than a £15k cost cap, both for the single-metric scenarios and the main policy options (Options 1, 2a, 2b and 2c).

### B.1. Single proxy-metric maximal outcomes with a £10k cost cap

**Table 9. Maximal outcomes from higher PRS standards based on single proxy-metrics and using a £10k cost cap (£ values in 2024 prices)<sup>60,61,62</sup>**

Summary outcomes	Current cost metric: EPC C	New cost metric: EPC C	Fabric metric: HP ready	Fabric metric: higher target	Smart metric: solar PV	Heat metric: heat pump
<b>Outcomes by 2030:</b>						
Properties upgraded (millions)	2.6	2.5	1.1	2.3	2.2	0.9
Undiscounted capital spend (£bn)	9.5	9.4	2.6	5.7	12.4	7.0
Average cost per property (£)	3,700	3,700	2,300	2,400	5,500	8,000
Average annual bill savings (£)	200	200	60	70	260	-240/-120
Out of fuel poverty (thousands)	628	432	24	161	527	68
<b>Outcomes by 2050:</b>						
Properties upgraded (millions)	2.6	2.9	1.1	2.6	2.9	1.2
Undiscounted capital spend (£bn)	10.4	10.7	2.6	6.3	16.0	9.5
Average cost per property (£)	4,000	3,600	2,300	2,400	5,500	7,800
<b>Non-traded carbon savings:</b>						
Carbon Budget 5 (MtCO <sub>2</sub> e)	2.4	1.9	0.6	1.5	0.0	5.4
Carbon Budget 6 (MtCO <sub>2</sub> e)	3.0	2.4	0.8	2.1	0.0	9.1
<b>NPVs &amp; BCRs (from 2025-2071):</b>						
Net-present value (NPV) (£m)	5,605	3,775	452	1,452	1,719	1,516

<sup>60</sup> Two possible average bill saving figures are provided where heat pumps are installed, with the latter accounting for savings on gas standing charges where a property is disconnected from the gas grid. Bill savings are reported as positive.

<sup>61</sup> The numbers of households taken out of fuel poverty are provided for England only, where the low-income, low-energy efficiency (LILEE) definition of fuel poverty is used.

<sup>62</sup> In the case of the cost metric, the modelling also installed some hot water tank insulation, hot water tank thermostats, solar thermal systems and LED lights.

Benefit-cost ratio (BCR)	1.5	1.4	1.2	1.2	1.1	1.2
<b>Measures by 2030 ('000s):</b>						
Cavity wall insulation	223	204	154	429	-	-
Solid wall insulation	4	2	14	17	-	-
Loft insulation	331	381	195	490	-	-
Floor insulation	460	615	381	843	-	-
Double glazing	176	280	246	439	-	-
Draught proofing	869	2,155	1,033	2,167	-	-
Time temp zone controls	2,073	1,918	-	-	-	-
Room thermostat	197	231	-	-	-	60
Solar PV	939	921	-	-	2,247	-
New boiler	164	271	-	-	-	-
Heat pump	51	5	-	-	-	868

**Table 10. Undiscounted upgrade costs by 2030 due to higher PRS standards based on single proxy-metrics with a £10k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2030:	Current cost metric: EPC C	New cost metric: EPC C	Fabric metric: HP ready	Fabric metric: higher target	Smart metric: solar PV	Heat metric: heat pump
£0 - £1,000	681	689	355	676	-	-
£1,000 - £2,000	204	178	259	534	-	-
£2,000 - £3,000	201	194	160	364	55	-
£3,000 - £4,000	289	318	113	218	321	-
£4,000 - £5,000	300	260	80	202	586	-
£5,000 - £6,000	291	270	59	151	494	-
£6,000 - £7,000	243	251	25	67	371	-
£7,000 - £8,000	155	185	29	63	174	482
£8,000 - £9,000	141	151	24	44	230	343
£9,000 - £10,000	67	37	13	14	16	43
£10,000 - £11,000	-	-	-	-	-	-
£11,000 - £12,000	-	-	-	-	-	-
£12,000 - £13,000	-	-	-	-	-	-
£13,000 - £14,000	-	-	-	-	-	-
£14,000 - £15,000	-	-	-	-	-	-
Over £15,000	-	-	-	-	-	-

**Table 11. Undiscounted upgrade costs by 2050 due to higher PRS standards based on single proxy-metrics with a £10k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2050:	Current cost metric: EPC C	New cost metric: EPC C	Fabric metric: HP ready	Fabric metric: higher target	Smart metric: solar PV	Heat metric: heat pump
£0 - £1,000	684	933	362	765	-	-
£1,000 - £2,000	201	205	261	593	-	-
£2,000 - £3,000	187	223	160	403	69	-
£3,000 - £4,000	266	336	114	231	453	-
£4,000 - £5,000	270	264	81	216	773	-
£5,000 - £6,000	277	256	59	157	652	-
£6,000 - £7,000	221	247	24	68	481	101
£7,000 - £8,000	143	161	28	62	233	727
£8,000 - £9,000	129	125	24	40	257	349
£9,000 - £10,000	108	66	15	25	16	43
£10,000 - £11,000	22	45	1	6	-	-
£11,000 - £12,000	25	25	-	7	-	-
£12,000 - £13,000	17	19	-	1	-	-
£13,000 - £14,000	6	7	1	1	-	-
£14,000 - £15,000	6	3	1	3	-	-
Over £15,000	12	9	-	-	-	-

## B.2. Policy Options 1 and 2 maximal outcomes with a £10k cost cap

**Table 12. Maximal outcomes for scenarios associated with Options 1, 2a, 2b and 2c with a £15k cost cap (£ values in 2024 prices)<sup>63</sup>**

Summary outcomes	Option 1 / Option 2a		Option 2b		Option 2c
	Scenario 1: HP ready fabric then smart	Scenario 2: Higher fabric then smart	Scenario 3: HP ready fabric then heating	Scenario 4: Higher fabric then heating	Scenario 5: Smart then heating
<b>Outcomes by 2030:</b>					
Properties upgraded (millions)	2.7	3.0	1.9	2.7	2.5
Undiscounted capital spend (£bn)	13.8	15.0	8.9	9.8	14.4
Average cost per property (£)	5,100	4,900	4,800	3,700	5,800
Average annual bill savings (£)	220	200	-60/+60	20/140	210/330
Out of fuel poverty (thousands)	525	531	90	193	536
<b>Outcomes by 2050:</b>					
Properties upgraded (millions)	3.4	3.8	2.2	3.2	3.3
Undiscounted capital spend (£bn)	18.1	20.8	12.3	15.5	24.3
Average cost per property (£)	5,300	5,500	5,500	4,900	7,400
<b>Non-traded carbon savings:</b>					
Carbon Budget 5 (MtCO <sub>2</sub> e)	0.6	1.5	5.6	4.7	1.7

<sup>63</sup> Two possible average bill saving figures are provided where heat pumps are installed, with the latter accounting for savings on gas standing charges where a property is disconnected from the gas grid. Bill savings are reported as positive.

Carbon Budget 6 (MtCO <sub>2</sub> e)	0.8	2.1	9.4	7.9	2.9
<b>NPVs &amp; BCRs (from 2025-2071):</b>					
Net-present value (NPV) (£m)	2,069	2,839	2,269	3,273	4,251
Benefit-cost ratio (BCR)	1.1	1.1	1.2	1.2	1.2
<b>Measures by 2030 ('000s):</b>					
Cavity wall insulation	154	429	154	429	-
Solid wall insulation	14	17	14	17	-
Loft insulation	195	490	195	490	-
Floor insulation	381	843	381	843	-
Double glazing	246	439	246	439	-
Draught proofing	1,033	2,167	1,033	2,167	-
Time temp zone controls	-	-	-	-	-
Room thermostat	-	-	52	28	23
Solar PV	2,063	1,794	-	-	2,247
New boiler	-	-	-	-	-
Heat pump	-	-	797	533	255

**Table 13. Undiscounted upgrade costs by 2030 for scenarios associated with Options 1, 2a, 2b and 2c with a £10k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2030:	Option 1 / Option 2a		Option 2b		Option 2c
	Scenario 1: HP ready fabric then smart	Scenario 2: Higher fabric then smart	Scenario 3: HP ready fabric then heating	Scenario 4: Higher fabric then heating	Scenario 5: Smart then heating
£0 - £1,000	181	311	303	533	-
£1,000 - £2,000	100	130	251	482	-
£2,000 - £3,000	117	186	160	364	55
£3,000 - £4,000	355	325	113	218	321
£4,000 - £5,000	563	531	80	202	586
£5,000 - £6,000	469	466	59	151	494
£6,000 - £7,000	381	404	25	67	371
£7,000 - £8,000	256	339	494	370	359
£8,000 - £9,000	256	297	332	229	293
£9,000 - £10,000	43	59	37	54	23
£10,000 - £11,000	-	-	-	-	-
£11,000 - £12,000	-	-	-	-	-
£12,000 - £13,000	-	-	-	-	-
£13,000 - £14,000	-	-	-	-	-
£14,000 - £15,000	-	-	-	-	-
Over £15,000	-	-	-	-	-

**Table 14. Undiscounted upgrade costs by 2050 for scenarios associated with Options 1, 2a, 2b and 2c with a £10k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2050:	Option 1 / Option 2a		Option 2b		Option 2c
	Scenario 1: HP ready fabric then smart	Scenario 2: Higher fabric then smart	Scenario 3: HP ready fabric then heating	Scenario 4: Higher fabric then heating	Scenario 5: Smart then heating
£0 - £1,000	184	343	305	581	-
£1,000 - £2,000	101	148	216	415	-
£2,000 - £3,000	123	193	146	298	37
£3,000 - £4,000	474	409	102	179	181
£4,000 - £5,000	725	637	72	150	516
£5,000 - £6,000	603	533	46	106	551
£6,000 - £7,000	483	488	122	141	445
£7,000 - £8,000	292	375	726	560	448
£8,000 - £9,000	272	308	368	351	304
£9,000 - £10,000	71	144	56	165	122
£10,000 - £11,000	29	90	14	58	252
£11,000 - £12,000	23	62	14	82	200
£12,000 - £13,000	24	48	7	35	105
£13,000 - £14,000	4	20	5	13	69
£14,000 - £15,000	4	10	15	18	36
Over £15,000	4	13	2	8	32

## Annex C. Option 2 maximal outcomes with alternative prioritisation of measures

97. Tables 15-17 below show the estimated maximal outcomes for Options 2a, 2b and 2c where landlords prioritise achieving the smart metric over the fabric metric (Option 2a), the heating metric over the fabric metric (Option 2b) and the heating metric over the smart metric (Option 2c). These results are based on a £15k cost cap.

**Table 15. Maximal outcomes for alternative scenarios associated with Options 2a, 2b and 2c with a £15k cost cap (£ values in 2024 prices)**

Summary outcomes	Option 2a		Option 2b		Option 2c
	Alternative scenario 1: Smart then HP ready fabric	Alternative scenario 2: Smart then higher fabric	Alternative scenario 3: Heating then HP ready fabric	Alternative Scenario 4: Heating then higher fabric	Alternative Scenario 5: Heating then smart
<b>Outcomes by 2030:</b>					
Properties upgraded (millions)	2.8	3.1	3.0	3.1	3.0
Undiscounted capital spend (£bn)	16.6	19.9	29.0	31.2	31.3
Average cost per property (£)	6,000	6,500	9,700	10,000	10,400
Average annual bill savings (£)	250	260	-130	-100	-80
Out of fuel poverty (thousands)	576	608	277	372	365
<b>Outcomes by 2050:</b>					
Properties upgraded (millions)	3.5	3.9	3.8	4.0	4.0

Undiscounted capital spend (£bn)	21.1	26.2	38.5	43.4	51.3
Average cost per property (£)	6,000	6,800	10,100	10,900	12,900
<b>Non-traded carbon savings:</b>					
Carbon Budget 5 (MtCO <sub>2</sub> e)	0.7	1.5	19.4	19.6	19.3
Carbon Budget 6 (MtCO <sub>2</sub> e)	0.9	2.1	30.9	31.1	30.7
<b>NPVs &amp; BCRs (from 2025-2071):</b>					
Net-present value (NPV) (£m)	1,835	2,321	5,325	4,486	7,120
Benefit-cost ratio (BCR)	1.1	1.1	1.1	1.1	1.1
<b>Measures by 2030 ('000s):</b>					
Cavity wall insulation	149	395	73	230	-
Solid wall insulation	118	163	45	59	-
Loft insulation	195	487	183	473	-
Floor insulation	381	834	273	647	-
Double glazing	232	418	128	272	-
Draught proofing	1,030	2,177	1,042	2,197	-
Time temp zone controls	-	-	-	-	-
Room thermostat	-	-	432	432	432
Solar PV	2,307	2,307	-	-	855
New boiler	-	-	-	-	-
Heat pump	-	-	2,735	2,735	2,735

**Table 16. Undiscounted upgrade costs by 2030 for alternative scenarios associated with Options 2a, 2b and 2c with a £15k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2030:	Option 2a		Option 2b		Option 2c
	Alternative scenario 1: Smart then HP ready fabric	Alternative scenario 2: Smart then higher fabric	Alternative scenario 3: Heating then HP ready fabric	Alternative scenario 4: Heating then higher fabric	Alternative scenario 5: Heating then smart
£0 - £1,000	107	217	78	155	-
£1,000 - £2,000	48	57	42	41	-
£2,000 - £3,000	88	121	19	37	6
£3,000 - £4,000	324	258	15	28	16
£4,000 - £5,000	529	425	13	24	28
£5,000 - £6,000	437	359	11	12	40
£6,000 - £7,000	370	359	9	15	58
£7,000 - £8,000	229	283	468	316	271
£8,000 - £9,000	248	280	304	181	218
£9,000 - £10,000	148	196	416	458	382
£10,000 - £11,000	71	144	751	499	881
£11,000 - £12,000	73	127	292	405	493
£12,000 - £13,000	61	147	286	510	370
£13,000 - £14,000	33	88	260	419	242
£14,000 - £15,000	1	1	22	37	9
Over £15,000	-	-	-	-	-

**Table 17. Undiscounted upgrade costs by 2050 for alternative scenarios associated with Options 2a, 2b and 2c with a £15k cost cap (numbers of properties upgraded at each cost are shown in the table; 2024 prices used)**

Upgrade costs by 2050:	Option 2a		Option 2b		Option 2c
	Alternative scenario 1: Smart then HP ready fabric	Alternative scenario 2: Smart then higher fabric	Alternative scenario 3: Heating then HP ready fabric	Alternative scenario 4: Heating then higher fabric	Alternative scenario 5: Heating then smart
£0 - £1,000	109	241	78	176	-
£1,000 - £2,000	50	70	32	34	-
£2,000 - £3,000	103	143	17	37	6
£3,000 - £4,000	453	362	11	24	23
£4,000 - £5,000	710	563	11	20	38
£5,000 - £6,000	591	481	9	10	77
£6,000 - £7,000	476	463	108	97	124
£7,000 - £8,000	286	353	709	506	299
£8,000 - £9,000	296	322	412	265	169
£9,000 - £10,000	171	211	703	677	220
£10,000 - £11,000	62	139	751	474	299
£11,000 - £12,000	69	126	237	326	362
£12,000 - £13,000	58	124	198	347	336
£13,000 - £14,000	28	75	170	247	339
£14,000 - £15,000	14	67	72	150	391
Over £15,000	36	143	305	612	1,295