

# ELECTRIC VEHICLE CHARGING IN RESIDENTIAL AND NON-RESIDENTIAL BUILDINGS – CONSULTATION RESPONSE



## Written Evidence Submitted by the British Property Federation

### British Property Federation

The British Property Federation (BPF) represents the real estate sector – an industry which contributed more than £100bn to the economy in 2018 and supported more than 2 million jobs. We promote the interests of those with a stake in the UK built environment, and our membership comprises a broad range of owners, managers and developers of real estate as well as those who support them. Their investments help drive the UK's economic success; provide essential infrastructure and create great places where people can live, work and relax.

The BPF has a committee dedicated to sustainability issues, reflecting the priorities that its leading members place upon issues of resource efficiency, environmental enhancement, and climate change. We also convene 17 more committees touching on real estate sectors and issues spanning Residential, Commercial, Planning, and Finance to name but a few. In response to the Department for Transport (DfT) consultation on the requirement to provide electric vehicle charge points (EVCPs) in buildings, we have sought views from across the BPF's membership, given the wide coverage and scope of these proposals, and the potential impact across building types.

We acknowledge that the government's ambition to phase out high polluting vehicles and promote the wider use of electric vehicles is a crucial pillar of achieving a zero emissions UK by 2050. The thought being given (noting the requirements of the EPBD) to the provision of associated charging infrastructure is therefore welcomed. There are however a number of potential limitations to the wholesale implementation of EVCPs, namely; cost implications, complications with land access, and the potential for technological redundancy. We have attempted to explore these issues and more within this submission.

### **BPF Comments relating to questions posed within the DfT consultation document (Question numbers directly relate to those within the [consultation document](#))**

#### ***New residential buildings, material change of use, and residential buildings undergoing major renovation***

**Q1.** *Do you agree with our proposed policy position? Please note that we are legally obliged to transpose the Energy Performance of Buildings Directive (EPBD) minimum requirements for residential buildings with more than 10 parking spaces. If no, please specify why.*

1. Broadly yes. We support the government's intent to phase out high polluting vehicles and the associated commitment to ensuring the charging infrastructure for electric vehicles is vastly improved to facilitate the target. To this extent, the proposed policies are preferable to expensive retrofit in the future. The government are right to acknowledge that any eventual regulations should balance the need to deliver sufficient EV charging infrastructure with the pressing need for new homes and other forms of sustainable development. Therefore, whilst we support the proposals some further thought could be given to:

1.1. Requirements for cable routes only. The benefit of policies that require the delivery of cable routes as opposed to actual EV chargepoints is that the issue of future technological redundancy and abortive work may be lessened. With a significant likelihood that new charging technology will come to market in due course, by requiring cabling and ducting, greater flexibility is given to the end user in terms of the technological solution they opt for. The government must give more thought to the potential impacts of technological change on these proposed mandates.

# ELECTRIC VEHICLE CHARGING IN RESIDENTIAL AND NON-RESIDENTIAL BUILDINGS – CONSULTATION RESPONSE



**Q5.** *What other issues do you think, relevant to using building regulations to set standards for the provision and safety of electric vehicle chargepoints, we should consider?*

2. We have taken the opportunity within this question to provide comments relating to important wider considerations. This includes:

- 2.1. **Cost models and the role of operators.** It is certain that there will be additional capital costs incurred to meet the requirements for residential buildings. These can be significant and there is no clear payback on these costs for a residential landlord. In some delivery models EV chargepoint operators charge the cost of installing the infrastructure back to the landlord over a long period of time or include it within costs for a long-term supply agreement. This may not align with the period of ownership for the building and could cause challenges upon sale of the asset.
- 2.2. It should also be noted that for private rented residential buildings there may be particular challenges in finding appropriate operational/delivery models for EV chargepoints. Many EV chargepoint operators, for example in other sectors, use a model where the cost of installing and maintaining the chargepoint infrastructure is covered by the landlord selling the respective energy to tenants with a profit margin included. This cannot however be applied to residential buildings due to the Tenant Fees Act.
- 2.3. The EV chargepoint market is embryonic and given the scale of the mandatory requirements being proposed, careful thought must be given to the operator market and what role it is required to, or assumed it will, play in the upfront delivery of chargepoint infrastructure, its long-term management, and the universality of the infrastructure. Should a given chargepoint operator fail or cease to operate, what are the implications for landlords and property owners?
- 2.4. **Practical challenges for landlords.** Depending on the eventual model chosen for a given building (whether EVCP is provided and managed by a landlord or a third party), requirements to maintain, operate, administer, and bill residents for electricity use, could prove onerous and costly for landlords. Such considerations may also have implications for the viability of schemes conceived prior to the regulations being conceived and implemented. We believe that whilst the policy proposals within the consultation are largely sound, further thought must be given to existing operational models and whether they converge with the implementation of these regulations.
- 2.5. **Grant funding.** There exist means by which individual homeowners can apply for and receive government grant funding (up to £500) to install EV chargepoints, however this facility is not currently available to organisations/corporate entities that are delivering homes and associated infrastructure. We would ask government to strongly consider providing a pool of funding to help deliver the target of one EV chargepoint per new dwelling.
- 2.6. **Safety.** We have received views on some safety considerations. These centre around earthing faults and the hazards presented by powerful charging points which are double the feed normally connected in a residential building. It would be difficult for the EV charging point to conform to the IET Code of Practice for EV Charging Equipment Installation which would be a Local Authority requirement. To become compliant, the EV charging point would have to be installed at the rear of a garage within the property boundary. The car would not be allowed to extend outside the garage and the homeowner would not be allowed to extend the cable beyond the garage boundary. Whilst achievable where garages are built it may be more difficult to comply where none are proposed.

# ELECTRIC VEHICLE CHARGING IN RESIDENTIAL AND NON-RESIDENTIAL BUILDINGS – CONSULTATION RESPONSE



2.7. If an electric vehicle is being charged and a person touching a conductive material also made contact with the car at the same time, it would present a serious risk to that person if there was a fault in the supply unless it was a three -phase supply. Similarly, electric vehicle charging in adjacent properties could represent a safety risk for the same reason. A non-conductive physical barrier may have to be installed and will have associated cost implications.

**Q12.** *Should the proposed Building Regulation requirements to install an electric vehicle chargepoint in every new home also apply to residential buildings undergoing a major renovation?*

3. We have received a mix of views as to whether chargepoint or cable routes should be required.

**Q13.** *If so, do you think the requirement should apply only to residential buildings undergoing major renovation with more than 10 car parking spaces?*

4. N/A

**Q14.** *Please provide an explanation for your answer, including any evidence or costings if relevant.*

5. We have received varying representations on the relative benefits and disadvantages of mandating chargepoints as opposed to cable routes. Given the significant potential impacts of these mandates, we believe much more thought must be given to the rate of future technological change (and thus potential redundancy). We have received the following contrasting but relevant views:

5.1. The benefit of policies that require the delivery of cable routes as opposed to EV chargepoints is that the issue of future technological redundancy and abortive work may be lessened. With a significant likelihood that new charging technology will come to market in due course, by requiring cabling and ducting, greater flexibility is given to the end user in terms of the technological solution they opt for.

5.2. We understand the government's reasoning for only requiring the provision of cable routes for major renovations with more than 10 parking spaces. There is certainly a need to avoid circumstances in which major renovations are curtailed by the significant up-front capital costs of complying with the regulations. However, the requirement to provide cable routes and not EV chargepoints, could be considered financially and environmentally inefficient if an associated building requires the EV chargepoint infrastructure in the future. Coupled with the suggested exemption for major renovations where the cost of installation exceeds 7 per cent (or perhaps lower) of the total cost, a requirement for EV chargepoints as opposed to just cable routes, could be appropriate. We would emphasise however, any mandatory requirement must be balanced against issues of technological redundancy, upfront capital costs, and operational/management issues associated with the allocation of parking spaces in multi-dwelling buildings. The government must therefore give more thought to the potential impacts of technological change on these proposed mandates.

5.3. We would also request a clearer description of when the requirements apply to buildings undergoing major renovation (as per paragraph 3.2 of the consultation document). 'Electrical infrastructure' can be a somewhat ambiguous term.

**Q48.** *Do you think we should apply an exemption to the chargepoint requirement when the grid connection cost is high?*

6. Yes. Reinforcements or additions to infrastructure to allow greater (or the necessary) grid capacity can incur significant capital costs.

7. It should also be noted (and explored) that upgrades to grid capacity in a proposed or new development will not necessarily be limited to delivering EV chargepoint infrastructure, grid capacity upgrades may also for instance be required to install low carbon electric powered heating. In this scenario, it is therefore difficult to compartmentalise the grid connection/upgrade costs specific to EV chargepoint installation. The unintended consequence of this scenario is that a developer may choose to not install low carbon heating as they cannot afford the total capital costs of doing so in conjunction with EV chargepoint installation. This is not ideal for broader governmental carbon reduction targets.
8. Additionally, this issue has implications for what level of cost cap [£3,600 proposed per chargepoint] should be introduced. We would also welcome clarification as to whether operation and maintenance of the respective infrastructure has been factored into the proposed cost cap.
9. Further, in instances where grid capacity is low (and associated cost of upgrade is high) some flexibility should be afforded the local planning authority to require a lower provision of EV chargepoints in line with capacity.

**Q60.** *Should we apply an exemption to the requirements for major renovations in residential buildings where the cost of installing the cable routes exceeds 7 per cent of the total cost of the major renovation?*

10. Yes. However, we would welcome clarification or confirmation of what the 7 per cent exemption means in practice. Will a major renovation with costs of over 7 per cent for the installation of cable routes be required to spend up to 6.9 per cent delivering as much EVCP provision as possible? Or will the renovation project be exempt from having to deliver any provision due to the compliant level of EVCP costing over 7 per cent?
11. We would also ask for confirmation as to whether the government intend to set a time limit to this exemption.
12. Further, it is unclear from the consultation document and associated impact assessments where the figure of 7 per cent has been derived from? We note that a 7 per cent cost cap exemption is proposed for both residential and non-residential major renovations. However, the cost implications of EV chargepoint installation are likely to be different amongst differing building types and uses, with some needing different charger types and power levels (for instance in logistics premises).

### ***New non-residential buildings and non-residential buildings undergoing major renovation***

**Q15.** *Do you agree with our proposed policy position? Please note that the proposed requirement is a minimum requirement that the government is legally obliged to transpose under the EPBD. If no, please specify why.*

13. Yes. Whilst we support the proposed mandate to deliver one chargepoint per building with more than 10 parking spaces and further cable routes for one in five spaces, we would highlight the future trajectory of these mandates. If greater numbers of EV chargepoints are to be mandated in the future, the existence of cable routes (whilst preferable to no cable routes) will still be subject to potentially significant cost implications if upgrades to substations/grid capacity are needed. This is made ever more likely if rapid charging points are needed in future.
14. We would also highlight a number of practical/operational implications associated with installation in the future. Firstly, this will likely lead to fewer available parking spaces for customers for a certain period of time whilst the infrastructure is installed. Secondly, operational disruption may occur when upgrading cable routes to connect to chargepoints as the broader electricity supply may need to be temporarily turned off for installation.

## ELECTRIC VEHICLE CHARGING IN RESIDENTIAL AND NON-RESIDENTIAL BUILDINGS – CONSULTATION RESPONSE



15. Further, whilst the government has acknowledged the paradox that exempt major renovations (with more than 20 parking spaces) will ultimately come under the mandates for 'existing buildings' by 2025, we believe further thought should be given to this issue. It is unlikely that a building that's unable to viably deliver chargepoint infrastructure through the process of major renovation will have overcome this obstacle by 2025. This may be an instance (major renovations) in which government grant funding will be required in order to reach the levels of desired provision.

**Q64.** *Should we apply an exemption for the requirement for new non-residential buildings and non-residential buildings undergoing major renovations to small and medium enterprises?*

16. Yes.

**Q66.** *Should we apply an exemption to the requirements for major renovations in non-residential buildings where the cost of installing the cable routes and chargepoint exceeds 7 per cent of the total cost of the major renovation?*

17. Yes. However, we would welcome clarification or confirmation of what the 7 per cent exemption means in practice. Will a major renovation with costs of over 7 per cent for the installation of cable routes be required to spend up to 6.9 per cent delivering as much EVCP provision as possible? Or will the renovation project be exempt from having to deliver any provision due to the compliant level of EVCP costing over 7 per cent?

18. We would also ask for confirmation as to whether the government intend to set a time limit to this exemption.

19. Further, it is unclear from the consultation document and associated impact assessments where the figure of 7 per cent has been derived from? We note that a 7 per cent cost cap exemption is proposed for both residential and non-residential major renovations. However, the cost implications of EV chargepoint installation are likely to be different amongst differing building types and uses, with some needing different charger types and power levels (for instance in logistics premises).

### ***Existing non-residential buildings***

**Q17:** *Do you agree that one chargepoint per existing building with more than 20 car parking spaces is a suitable minimum requirement to transpose the EPBD? If no, please explain why.*

20. Yes. However, we have received representations that in some instances the cost implications and physical challenges of supplying power to a given location can limit the ability to deliver EV chargepoints. To this effect, we would encourage the government to consider an appropriate cost cap exemption for installation in existing buildings. Multi-storey car parks are for instance a difficult location in which to retrofit infrastructure. Capital costs are likely to be higher for existing buildings due to aged infrastructure with potentially limited supply size, particularly in densely populated areas.

21. We would also welcome clarification around a point that may help to alleviate the cost and practical pressures of retrofitting EV chargepoints by allowing greater flexibility on where (geographically speaking) the chargepoints are provided. The draft technical guidance is not explicit in indicating in which locations EV chargepoints for existing non-residential buildings can lawfully be provided (as opposed to the red line diagrams provided for new residential buildings and references to 'within the site boundary for new residential and non-residential buildings). By requiring an existing non-residential building to have at least one chargepoint located in conjunction with its existing parking spaces this would potentially restrict more cost-effective solutions such as centralising a greater number of chargepoints in one location to serve a number of adjacent non-residential buildings. We assume that the proposed regulations allow for this as they do not state otherwise. Confirmation of this within future guidance would be welcome.

## ELECTRIC VEHICLE CHARGING IN RESIDENTIAL AND NON-RESIDENTIAL BUILDINGS – CONSULTATION RESPONSE



**Q19.** *How can the government apply these regulations in a way which balances the benefit to EV drivers and the requirements of the EPBD, with the burden on landowners?*

22. With regard to existing non-residential buildings, consideration should be given to the parties that are required to be compliant. Where long leases are in place, it may be unreasonable to require the freeholder to comply, and where shorter leases are in place the tenant/occupier may need superior landlord consent to carry out relevant works. We acknowledge that an exemption is suggested for SMEs in non-residential buildings however their SME status is not synonymous with lease length and or lease arrangements.
23. Government should also give consideration to instances in which a landlord may or may not be able to acquire consent from a tenant/occupier for the relevant works. Perhaps an exemption could apply in this circumstance.
24. Where non-residential buildings are let, it is unclear whether tenants are expected to pay for the increased of electricity used. Respective increases in service charges may be resisted, particularly in circumstances where it is not considered a direct benefit to a given company or their employees.
25. A point that may be particularly prohibitive for existing non-residential buildings is the issue of third parties and access rights. For buildings where the existing electricity supply is not sufficient (which seems to hold a high likelihood) and a new connection to the grid is required, wayleaves crossing third party land may be required. Third party landowners may refuse to enter into a wayleave agreement or charge a punitive amount to do so. We suggest that government should consider an appropriate exemption where the respective costs are prohibitively high.
26. Government might consider incentives for landowners to go above and beyond the mandated requirements. This is to say that if a developer/applicant wishes to provide greater numbers of EV chargepoints than that legislated for, this might be balanced by reductions in other costs associated with the given planning permission (perhaps relating to carbon offsetting).

**Q23.** *What steps should we take to mitigate against any potential negative impact of the implementation of these regulations?*

27. The key unintended consequence that we would highlight is central to the objectives of these proposed mandates. We believe the intention of these proposals is to facilitate the delivery and operation of the infrastructure needed to support vastly greater numbers of electric vehicles being used in the UK. To this end readily available charging infrastructure is a crucial requirement in allowing travel across the country, within cities, and more broadly from point A to B. What must be considered however, is the lifecycle of current charging technology and the rate of technological redundancy. If the wholesale installation of EV chargepoints is undertaken in the short term, but in the long term the respective charging technology moves on, what are the additional costs of adjusting, and the potential financial and carbon costs of wasted infrastructure? This is not to say that we should do nothing, but rather that careful thought should be given to the longer-term ambitions as well as the flexibility and adaptability of the technology being promoted in the short term.
28. Whilst this consultation is concerned with the policies and regulations for the delivery of individual EV chargepoints in residential and non-residential buildings, the cumulative impact of installing nearly three million new chargepoints by 2050 (as indicated in the impact assessments) will have a significant impact on the amount of electricity being drawn from the grid. Coupled with the government's ambition to decarbonise heating in buildings (which is likely to be targeted through increased use of electric heating), serious thought must be given to grid capacity and the future loads that are expected to be generated. We would emphasise the need to carefully consider this now and not once the regulations for the potential delivery of almost three



## ELECTRIC VEHICLE CHARGING IN RESIDENTIAL AND NON-RESIDENTIAL BUILDINGS – CONSULTATION RESPONSE



million EV chargepoints are introduced. Future pressures on the electricity grid should be considered as a nationally strategic infrastructure requirement.

29. Further, at a systems level, thought must be given to ensuring infrastructure is ready for a demand response grid, where stored EV charging energy can be traded in the grid to mitigate peak supply issues. In this regard users would need to specify their willingness for their electric vehicle to be used for this purpose.
30. We have been made aware of instances in which EV chargepoints have been required in relation to temporary planning permissions. These instances must be considered further as requiring the temporary installation and then removal of EV chargepoints is both onerous and unsustainable. Flexibility should be encouraged so that in such circumstance EV chargepoints can for instance be provided offsite in an appropriate nearby permanent location.

**Q68.** *Should we apply an exemption to the requirement for existing non-residential buildings to small and medium enterprises?*

31. Yes.

### **General**

**Q24.** *Are the definitions in the draft Approved Document accurate, clear and do they provide the intended meaning?*

32. Yes. However, notwithstanding the 'more than 25 per cent of the surface area of the building envelope undergoes renovation' definition, we would request a clearer description of when the requirements apply to buildings undergoing major renovation (as per paragraph 3.2 of the consultation document). 'Electrical infrastructure' can be a somewhat ambiguous term. Further, it is not clear in instances of tenant fit out whether this would be considered renovation. For instance, if shop fronts are converted from hard traditional frontages to glazed frontages, but the accommodation (i.e. floor area) is left untouched would this be defined as a major renovation? This is to say that greater clarity or further guidance would be important in determining what is classified as the 'renovation' of more than 25 per cent of the surface area of a building.

**Q47.** *What is a reasonable transition period between publishing the new regulations and guidance and the requirements coming into force?*

33. We believe that a proposed transition period of 2 years (24 months) would allow for the appropriate level of preparation, whilst maintaining the necessary level of momentum. We would however emphasise the need to clearly define and signpost the implementation of these regulations, so that the real estate industry has certainty around when and at what capacity these requirements need to be delivered. Notwithstanding this, some additional thought must be given to some of the issues outlined within our broader response, particularly in relation to implementation and enforcement.

**Q75.** *Are there any groups who would be impacted by these regulations that have not been captured by this assessment?*

34. Whilst not a 'group', we have received representations from our membership warning that the proposed mandates may prove more onerous in rural locations, where car travel (and thus parking) is relied on to a greater extent, where vehicle usage patterns vary, where project viability can often be tighter, and where grid connection costs will differ.

## ELECTRIC VEHICLE CHARGING IN RESIDENTIAL AND NON-RESIDENTIAL BUILDINGS – CONSULTATION RESPONSE



35. Similarly, we have received representations from our membership warning that the proposed mandates may prove more onerous in regional markets, where car travel (and thus parking) is relied on to a greater extent, where vehicle usage patterns vary, where grid connection costs will differ, and importantly where project viability can often be tighter, in some instances causing organisations to relocate in areas of lower land values.

**Q82.** *What will be the impact on housing supply of introducing a requirement for chargepoint infrastructure on new dwellings?*

36. We would highlight the likely market forces that may affect the success of the mandates. For instance, if the cost of EV chargepoint installation is passed onto home buyers, will this impact associated purchases in a context where electric vehicle use is still embryonic? To a similar point, what thought has been given to the operational implications of delivering EV chargepoints for affordable housing? Given the likely cost implications for operation, management, and upkeep, how is it envisaged that these factors are payed for?

37. As indicated within our wider submission the mandates may have an undue impact on housing supply in circumstances where scheme viability is already marginal – particularly for sites that have been purchased but not yet developed - or in localities where per dwelling car parking space provision is required at a high level.

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