# OLEV Electric vehicle charge points in residential and non-residential buildings consultation

Produced by the Renewable Energy Association in conjunction with its EV Group
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Link to consultation in full: https://www.gov.uk/government/consultations/electric-vehicle-chargepoints-in-residential-and-non-residential-buildings

**About the REA:** The REA is the UK's largest trade association for renewable energy and clean technologies operating since 2001. The Association is not-for-profit, and spans over 500 members operating across heat, power, and transport. The REA EV Group is comprised of around 75 companies involved in EV charging finance, installation, operations, manufacture, and service provision, including in both public and private settings.

**Q1: Do you agree with our proposed policy position? Please note that we are legally obliged to transpose the EPBD minimum requirements for residential buildings with more than 10 parking spaces.**

The REA is supportive of the Government's proposed policy position to adopt the EU Energy Performance in Buildings Directive.

The REA is supportive of the proposal to go beyond the baseline requirements of the EU Energy Performance in Buildings Directive by stipulating a charge point in new (appropriate) dwellings, but wishes to flag potential issues with the policy that should be considered.

**Q2: If no, please specify why, including what requirement you think would be suitable.**

N/A

**Q3: Do you agree that the proposed Building Regulation should mandate the introduction of electric vehicle charging points rather than set them as optional?**

The REA agrees with this position.

**Q4: If you disagree, please explain why.**

N/A

**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?**

The REA believes that if legislation introducing these changes is to be introduced, the installation of charge points needs to meet a minimum set of technical installation standards which need to be enforced.

Whilst not appropriate for new-build installations, for *retrofit* installations in homes (particularly) and in workplaces in cases of a major renovation the REA proposes ensuring that those installing and selling charge points comply with a relevant industry-led consumer code. Rather than solely target installation quality, this covers issues such as how salespeople engage with customers, warrantees, contracts, and the codes give consumers an arbitration body if something goes wrong.

An example is the Renewable Energy Consumer Code, which installers of Feed-in Tariff technologies needed to be a part of in order to receive the feed-in tariff. If an installer was disreputable and clients brought complaints against them they risked being expelled from the code, and thereby blocked from further Feed-in Tariff installations. The Renewable Energy Consumer Code is wholly-owned by the REA and is an industry-led body which has adapted it's offering to the domestic charge point sector (the EV Consumer Code, currently under consultation).

**Q6: Do you agree that the government should mandate electric vehicle charging for all new dwellings with an associated car parking space (including both multi-dwelling and single-dwelling buildings)?**

The REA agrees with this position, although concern was voiced by some aspects on the industry regarding this based on:

- Reduction in consumer choice for charging units. This relates to a developer installing hundreds of the same types of charge points at the same time, which restricts the industry's ability to compete on brand and service directly with a consumer and instead skews the market towards (potentially discounted) bulk sale and relationships with property developers.
- Potential for redundant infrastructure installed. This relates to whether all the charging infrastructure is used when it is installed. Some drivers might not adopt an EV for several years, by which time the technology installed may be outdated or the warrantee lapsed.
- Potential grid-related issues for landowners. Installing unused chargers may result in higher standing costs for developers. Not using the chargers for a particular period may result in the DNO taking away allocated capacity, only for it to be needed 4-5 years later.

Overall, the REA position is that:

- Whilst some reduction in choice may take place, it is of greater urgency to be developing infrastructure at an early stage.
- Whilst some consumers may not purchase an electric car for a number of years, customers who regularly see infrastructure are understood to be more likely to move to an electric vehicle (and therefore utilize said infrastructure). The REA also anticipates significant vehicle deployment by the time these regulations fully come into force, which will minimize this risk.
- For grid-related impacts, this is an issue for the DNOs to manage and cannot fully be the responsibility of the property sector and charging industry to manage. For those aware of smart charging, products exist that can deliver a load-balancing network of chargers which would limit the overall demand of that site below a threshold of electricity supply which would minimize extra grid upgrade costs

We note that the regulations should give provision for some maneuverability. For example, rather than having one charge point per parking space associated with a dwelling, one 7kW socket should be mandated to be available. This would allow for the development of dual-socket posts which can charge two cars, which may be more appropriate in some situations.

**Q7: If no, please explain what you think would be the appropriate scope of the requirements.**

N/A

**Q8: Do you agree the requirements should be for one chargepoint per dwelling rather than for every parking space associated with the building?**

Response: the REA agrees with the proposed language of the requirements and believe it gives suitable flexibility to developers whose car park spaces may not be designed for domestic usage.

The REA also believes that developers, as part of their application, should be able to produce a power capacity plan for the whole development detailing how EV charging (at mass vehicle adoption levels) will be supported. Where necessary, the deployment of smart charging across the development must be explained, together with any EV charging constraints which might be activated and under what conditions.

**Q9: If not, please explain what you think would be the appropriate requirement.**

N/A

**Q10: Should the proposed Building Regulation requirement for electric vehicle chargepoint infrastructure apply where the building has undergone a material change of use as defined in paragraph a) or b) of Regulation 5 of the Building Regulations 2010?**

The REA agrees with the proposed requirement.

**Q11: If you disagree, please explain why.**

N/A

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

The REA agrees with the proposed requirement.

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

The REA agrees with this proposed requirement.

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

N/A

**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.**

The REA is strongly supportive of this requirement as a baseline but think it should be enhanced.

**Q16: If no, please specify why, including what alternative requirement you think would be suitable.**

The REA would favour greater non-residential charge point deployment. Specifically, a charge socket for 1 in every 4 spaces (NB: one dual-socket charger could cover two parking spaces). Additionally, ducting and cabling should be installed for a further 1 in every 4 spaces (again that cabling could be positioned between two spaces).

**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?**

REA is in agreement with this requirement and thinks it could go further (e.g. 1 charger for every 20 car parking spaces for existing buildings with over 20 car parking spaces).

**Q18: If you disagree, please explain why.**

N/A

**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?**

N/A

**Q20: Do you agree that the appropriate enforcement regime for this power should set a sliding scale of penalties for non-compliance?**

The REA is supportive of a sliding scale, with companies over a certain size being more liable than smaller organizations such as small to medium sized companies.

**Q21: If you disagree, what do you think would be the appropriate enforcement regime for these requirements?**

N/A

**Q22: Do you have a view on which organisation should be defined as an enforcement body for compliance with the new regulations for EV charging infrastructure?**

The REA is supportive of a centralized independent regulator which can build up internal expertise relating to this market, and therefore can make informed judgment calls as to exceptional circumstances.

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

Internal expertise and informed judgment within the enforcement body will be important in navigating negative and exceptional circumstances.

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

The REA is supportive of a regular and structured review (say every 2 years) of the Approved Documents and is also in support of all new private charge points being installed being 'smart,' in accordance with the OLEV Smart Charging Consultation.

**Q25: If you think the definitions could be improved please suggest how.**

N/A

**Q26: Do you agree with using the concept "within the site boundary" to define which parking spaces which are in scope of the regulations?**

The REA is supportive of the proposed definition of 'within the site boundary' rather than solely having 'adjacent' car parks be in scope.

The REA would like to see clarification around whether private car parks which are adjacent to private dwellings, are functionally regularly used by domestic occupants, but not owned by the same group as the housing developer would come within the scope of these regulations.

**Q27: If not, please explain what you think an appropriate definition would be.**

N/A

**Q28: Do you agree that the government should specify a minimum charging power of 7 kW?**

Given the increasing range of many battery electric vehicles, the enhanced ability for a higher-powered charger to deliver load-balancing services to the grid, and the present perception of 'range anxiety' for many new drivers, the REA is supportive of a 7kW minimum standard *per socket*.

The *per socket* stipulation is important as some developers may wish to install charge points with multiple sockets catering to multiple bays. We believe each socket will need to be able to deliver 7kW.

7kW should be (the minimum) allowed for cabling for EV charging and an associated charger, but this should accommodate for load-balancing (e.g. by a double-socket charger, local smart charging system, CPMS system, DNO system) which may result in short periods in which a vehicle is charging at under 7kW.

The REA would request that onsite generation and battery storage to reduce grid connection costs and the benefits of the types of 'smart charging' to landowners is also outlined in any guidance accompanying these regulations.

**Q29: If no, please specify what specification would be suitable and give your reasons.**

N/A

**Q30: Do you agree that the Government should specify that chargepoints installed under the building regulations should be at least Mode 3 or equivalent?**

The REA is supportive of this view.

**Q31: If no, please explain your answer**

N/A

**Q32: Do you agree that the government should specify that chargepoints installed under the Building Regulations must be untethered?**

The REA is somewhat supportive of this view. Market intelligence indicates that the majority of sales are untethered in the UK as it is, as it gives sufficient choice (and reduces cost to property owners) to drivers who in the future may change their vehicle. Whilst we would not be strongly opposed to this being mandated, in the interest of minimizing the regulatory burden on the charge point sector we believe that as it is already largely taking place it is likely unnecessary to transpose.

**Q33: If no, please explain your answer**

N/A

**Q34: Do specifications with regards to location of the cabling route as outlined in the draft Approved Document sufficiently consider accessibility requirements?**

N/A

**Q35: Please provide any reasoning, and any details of potential other specifications that would be needed.**

N/A

**Q36: Do the proposed accessibility requirements in section 1.24 of the draft Approved Document sufficiently consider accessibility requirements?**

N/A

**Q37: Should we include any additional accessibility requirements?**

N/A

**Q38: Are the specifications with regards to safety standards as outlined in the draft Approved Document appropriate?**

A requirement should be included that property owners who are having chargers put in become responsible for notifying the relevant Distribution Network Operator and any Government-approved low-carbon technology asset registers (e.g. National Charge Point Registry) of where charge points are located.

**Q39: If no, please specify which further safety specifications we need to include.**

N/A

**Q40: Do you agree that the installation, addition or alteration of dedicated circuits and earthing and bonding arrangements for electric vehicle chargepoints should be notifiable building work?**

N/A

**Q41: Is the proposed guidance in the draft Approved Document clear and fit for purpose and provide sufficient detail in order to comply with the requirements?**

Yes, but can go further.

**Q42: If you think the guidance could be improved, please suggest how.**

The draft document should include an explicit reference to the ability for flexible energy technologies and self-generation (e.g. energy storage and solar PV) to reduce grid costs and provide a potential site income stream. The option for the installation of three-phase electricity supplies in new homes to provide additional capacity should also be formally noted in the document.

**Q43: The diagrams in the draft Approved Document are illustrative only. Are they accurate and do they provide sufficient detail?**

N/A

**Q44: If you think the diagrams could be improved, please suggest how.**

N/A

**Q45: Does the draft Approved Document meet our proposed policy intent?**

N/A

**Q46: Is there any information missing from the draft Approved Document?**

N/A

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

REA is supportive of any plans submitted by 10 March 2021 being exempt.

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

The REA is supportive of this, depending on the level of the requirement.

**Q49: If no, please explain why including any potential exemption if relevant.**

N/A

**Q50: Does the draft text in the draft Approved Document (section 1.27) capture the intended exemption?**

N/A

**Q51: If no, please suggest an alternative drafting.**

N/A

**Q52: What do you think is a reasonable maximum cost for grid connection? Please provide any evidence to support your answer.**

The £3,600 limit should be based on the installation of one single-socket 7kW charger (rather than a dual-socket charger). Ultimately it is up to the regulator to decide if any development would be exempt of this requirement once they are convinced that *all reasonable alternatives have been exhausted by the developer*, e.g. a load-balancing system. (NB: it is important that the developer can't determine this themselves).

**Q53: Does this exemption sufficiently mitigate any negative impact on housing supply?**

Yes

**Q54: Are there any other technical feasibility considerations that should be taken into account when determining the application of the requirements?**

N/A

**Q55: If yes, please outline what these technical considerations should be, including any supporting evidence.**

N/A

**Q56: Should we apply an exemption to the requirements for material change of use in residential buildings in cases where there is adequate spare capacity in the incoming electrical supply to the car park?**

See reply to question 52.

**Q57: If you disagree, please explain why.**

N/A

**Q58: Do you agree that we should apply an exemption for listed buildings and buildings in conservation areas as suggested above?**

The REA is supportive of listed buildings and those in conservation areas being included in the regulations but giving the relevant regulator power to make a judgment call, based on guidance, on a case-by-case basis.

**Q59: If you disagree, please explain why.**

N/A

**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?**

The REA sees this as a reasonable threshold. The regulator should be empowered to make judgments around whether a developer has exhausted all options for reducing their costs before granting an exemption.

**Q61: If you disagree, please explain why.**

N/A

**Q62: Should we apply an exemption to the requirements for major renovations in residential buildings in cases where there is adequate spare capacity in the incoming electrical supply to the car park?**

The REA is not supportive of this exemption.

**Q63: If you disagree, please explain why.**

**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?**

The REA is somewhat supportive.

**Q65: If you disagree, please explain why.**

As a very significant proportion of UK businesses are classified as SMEs, the REA would rather provide an exemption based on staff count. The REA believes that organizations with fewer than 40 employees at any one premise should be exempt.

**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?**

See response to question 60.

**Q67: If you disagree, please explain why.**

N/A

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

The REA is somewhat supportive.

**Q69: If you disagree, please explain why.**

As a very significant proportion of UK businesses are classified as SMEs, the REA would rather provide an exemption based on staff count. The REA believes that organizations with fewer than 40 employees at any one premise should be exempt.

**Q70: Do you agree with the assumptions, costs and impacts set out in the Impact Assessment?**

The REA is broadly supportive, with the caveat that we have not viewed the modeling underpinning the assumptions.

**Q71: If you do not agree, please provide supporting evidence.**

N/A

**Q72: How are these costs likely to change over time?**

The REA thinks that the cost of the cabling, trenching, ducting and charge points won't significantly reduce over time and with volume.

European and USA-manufactured smart charge points will likely only have small reductions in their costs to make and build them by 2030 (REA estimation ~5%).

Grid connection costs, particularly at the Distribution level, are extremely difficult to predict. The mean grid connection cost is unlikely to decrease by 2030.

**Q73: What are the likely cost reductions from economies of scale?**

See Q72.

**Q74: Are these cost reductions likely to be relevant for both installation and hardware costs?**

See Q72.

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

N/A

**Q76: Would multiple single-occupancy developments (such as housing estates) be able to take advantage of economies of scale savings for chargepoint installation?**

The REA understands that with volume only small discounts on hardware unit costs are feasible. The relevant economics of scale then may be the reduced labor costs involved with the installation.

**Q77: What are the likely technological learning rates that chargepoint hardware would experience?**

Whilst hardware costs are unlikely to significantly change, software costs and improvements will continue. A broader base of qualified installers, with experience of the industry, will additionally reduce costs.

**Q78: Are you aware of a more suitable methodology for capturing the variation in grid connection costs?**

Northern Powergrid are trialing, with EA Technology, a low-voltage connection cost estimation tool which is funded by the Networks Innovation Allowance. Such tools may provide more accurate assessments in the coming years. Link: https://www.eatechnology.com/wp-content/uploads/2019/06/EVI-AutoDesign-Case-Study.pdf

**Q79: Does the assessment of cost incidence seem accurate?**

N/A

**Q80: Are there likely to be disruption costs in a retrofit scenario, and if so how large are these likely to be?**

N/A

**Q81: Have we captured all the benefits, and if not, can you suggest any additional benefits?**

For the REA, this policy is crucial to the UK Industrial Strategy and delivering on the wider social objectives of delivering decarbonisation, enhanced air quality, and creating a future market for electric vehicles to give confidence to automotive manufacturers to continue to manufacture products here in the future.

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

N/A