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Electric Vehicle Charging in Residential and Non-Residential Buildings

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Action required: Responses by 29 November 2024

Mae'r ddogfen hon ar gael yn Gymraeg hefyd / This document is also available in Welsh
Rydym yn croesawu gohebiaeth a galwadau ffôn yn Gymraeg /
We welcome correspondence and telephone calls in Welsh

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Overview

This consultation seeks your views on the draft amendments to Building Regulations in Wales. The draft amendments will mandate the provision of electric vehicle chargepoints in new residential, non-residential buildings and buildings undergoing major renovations, or material change in use, which have associated car parking.

How to respond

The closing date for responses is 29 November 2024. You can respond in any of the following ways:

Email: Please complete the consultation form and send it to:
EVChargerBuildingRegs@gov.wales

Post: Please complete the consultation response form and send it to:

Building Regulations EV chargepoints, Welsh Government
Cathays Park Cardiff CF10 3NQ

Further information and related document Large print, Braille and alternative language versions of this document are available on request.

Contact details

For further information:

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This document is also available in Welsh

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Welsh Ministers have statutory powers they will rely on to process this personal data which will enable them to make informed decisions about how they exercise their public functions. The lawful basis for processing information in this data collection exercise is our public task; that is, exercising our official authority to undertake the core role and functions of the Welsh Government. (Art 6(1)(e))

Any response you send us will be seen in full by Welsh Government staff dealing with the issues which this consultation is about or planning future consultations. In the case of joint consultations this may also include other public authorities. Where the Welsh Government undertakes further analysis of consultation responses then this work may be commissioned to be carried out by an accredited third party (e.g. a research organisation or a consultancy company). Any such work will only be undertaken under contract. Welsh Government's standard terms and conditions for such contracts set out strict requirements for the processing and safekeeping of personal data.

In order to show that the consultation was carried out properly, the Welsh Government intends to publish a summary of the responses to this document. We may also publish responses in full. Normally, the name and address (or part of the address) of the person or organisation who sent the response are published with the response. If you do not want your name or address published, please tell us this in writing when you send your response. We will then redact them before publishing.

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For further details about the information the Welsh Government holds and its use, or if you want to exercise your rights under the UK GDPR, please see contact details below:

Data Protection Officer:
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The contact details for the Information Commissioner's Office are:

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1. Introduction to the Electric Vehicle (EV) Chargepoints proposals

1.1 Section Introduction

This section of the consultation document provides the background and general scope of the proposals for the introduction of Electric Vehicle (EV) charging points in Wales, through the legislative vehicle of the Wales Building Regulations, to be published by Welsh Government.

1.2 Programme and implementation

The consultation period began on 6 September 2024 and will run until 29 November 2024. The Welsh Government will then review the responses before responding formally. The government will also produce an economic impact assessment based on the consultation responses before laying the Statutory Instrument in the Senedd.

1.3 General background and scope of this consultation

1.3.1 Net Zero Wales: Carbon Budget 2

Net Zero Wales: Carbon Budget 2 sets out the Welsh Government's ambition to reduce and remove carbon emissions from the transport sector in Wales. This is in line with the Government's goal for a net zero economy by 2050.

The shift to electrically powered cars and vans, and away from petrol and diesel, is a key part of the plan. Switching from petrol and diesel cars and vans will also improve air quality and reduce the impacts of air pollution as set out in our Clean Air Plan¹.

In March 2023, the Welsh Government launched a joint consultation with the UK Government, Scottish Government, and Northern Ireland Department for Infrastructure inviting views on the detailed design and functioning of the Zero Emission Vehicle mandate for new cars and vans. The ZEV mandate was approved by the Senedd on 14 November 2023 and starting from January 2024, 22 percent of new cars sold and 10 percent of new vans sold in Great Britain will be zero emission. This will rise to 80 percent and 70 percent respectively by 2030. A mechanism to ensure that all new cars and vans be fully zero emission at the tailpipe from 2035 is currently being considered.

¹ <https://gov.wales/clean-air-plan-wales-healthy-air-healthy-wales>

1.3.2 Planning Policy Wales (PPW)

Planning Policy Wales (PPW) requires that development should make it possible for everyone to make sustainable and healthy travel choices for their daily journeys. PPW encourages the installation of EV chargepoints in new developments and some local authorities have begun to make chargepoint provision in new buildings a planning condition, but there is an inconsistent approach across the country.

1.3.3 Consultation Proposals

The proposals set out in this consultation would help deliver the four goals of the Well-being of Future Generations Act, a prosperous Wales, a healthier Wales, a more equal Wales, and a globally responsible Wales. Our efforts to decarbonise are driven by the need to mitigate global climate change and transition to electric vehicles that will reduce harmful air pollution which itself impacts disproportionately on the poorest in society.

To help future proof homes for the transition to electric vehicles we want every new home to have a chargepoint, where appropriate.

This consultation seeks views on introducing this requirement through the Building Regulations.

1.3.4 The need for Electric Vehicle (EV) chargepoints

To meet our ambition for the uptake of zero emission vehicles we need an accessible, affordable, and safe charging infrastructure network for electric vehicles (EVs). A lack of chargepoints is often cited in consumer research as a key reason as to why some people will not consider buying an EV². Increasing access to and availability of chargepoints is therefore key to encouraging people to make the switch. A key attraction of an EV is that it can be charged wherever it is parked, provided there is a suitable electrical power outlet. We expect to see a range of charging options for drivers - at destinations (e.g., supermarkets), workplaces and en-route (e.g., motorway service areas).

1.3.5 Home Charging of Electric Vehicles

Research indicates that for those that have a suitable parking space, most of the electric vehicle charging happens at home. For these drivers, home charging will provide the most convenient option and will often be cheaper than using the public network³, particularly when charging overnight and taking advantage of off-peak tariffs. Given 98 per cent of journeys in the UK are less than 50 miles (National Travel Survey, 2016), many drivers with access to a chargepoint at home may

² [Electric Vehicle Charging Research. Survey with electric vehicle drivers. Research report. \(publishing.service.gov.uk\)](#) .

³ Home charging can cost as little as 3p per mile (Go Ultra Low)

never need to use the public chargepoint network except for longer journeys.

Charging cars at home overnight using a dedicated chargepoint also has wider system benefits by enabling EVs to play their full part in our future smart and flexible energy system, charging at times when there is less demand on the electricity system as a whole and when it is cheaper to do so. The UK Government consulted separately in 2019 on introducing regulatory requirements for chargepoints to be smart enabled, enabling electric vehicles to be integrated into future smart and flexible energy system⁴. For these reasons, we expect home charging to continue to be central to the charging ecosystem in the future.

Despite this, many of our homes built in Wales today do not have a chargepoint installed as a standard practice. This means that retrofitting of a chargepoint will be required later. This is more expensive than installation at the time the house is built and can cause disruption to local community and residents later if roads and pavements must be dug up again to reinforce the local electricity network provisions and capacity.

1.3.6 Implementation of requirements using Building Regulations, for consistency of approach

The Building Regulations offer an established route for setting requirements for new buildings, providing a consistent approach across Wales.

Welsh Government proposes to implement the changes proposed in this consultation relating to:

- a) new residential and non-residential buildings, and
- b) existing residential and non-residential buildings undergoing major renovation or a material change of use.

The use of the Building Regulations will provide a more standardised approach to EV charging equipment in new buildings across Wales, helping to provide consistency. The proposals will require developers to demonstrate their compliance through the building control process.

Local Development Plans may therefore still need to consider the wider provision of electric vehicle charging, such as for areas that rely on on-street parking.

Our preferred option is to introduce a new functional requirement under Schedule 1 to the Building Regulations 2010.

⁴ <https://www.gov.uk/government/consultations/electric-vehicle-smart-charging/public-feedback/electric-vehicle-smart-charging-consultation-summary-of-responses>

1.3.7 Residential and non-residential building types as defined by the Building Regulations

There are a few different types of buildings which might have associated car parking spaces.

For this consultation, a building is defined in line with the Building Regulations⁵. The requirements would also apply to buildings which are multi-story car parks.

Residential Building

A residential building can be a building that is a dwelling ("dwelling house" in the Building Regulations), such as a detached or semi-detached house, which for the purpose of this consultation is referred to as a single-dwelling building.

A residential building can also be a building that contains several dwellings or "flats". A flat is defined in the Building Regulations to mean a "separate and self-contained premises constructed or adapted for use for residential purposes and forming part of a building from some other part of which it is divided horizontally". In this consultation a block of flats is referred to as a multi-dwelling building.

Non-residential building

A non-residential building in the context of the Building Regulations is interpreted to mean a building other than a building containing a dwelling (excluding buildings owned by persons authorised by law to construct or carry out work on public transport and other major projects (e.g. a railway station)).

⁵ [The Building Regulations 2010 \(legislation.gov.uk\)](http://legislation.gov.uk)

1.3.8 Summary of proposed policy positions

Table 1: Summary of proposed policy positions

<p><u>RESIDENTIAL BUILDINGS</u></p> <p>Both new and existing undergoing major renovation or material change of use</p>	<p><u>NON-RESIDENTIAL BUILDINGS</u></p> <p>Both new and existing undergoing major renovation or material change of use</p>	<p><u>NON-RESIDENTIAL BUILDINGS</u></p> <p>Existing <u>NOT</u> undergoing major renovation or material change of use</p>
<p>The Welsh Government proposes every new residential building with an associated car parking space (within the site boundary) to have a chargepoint.</p> <p>We propose this requirement also applies to buildings undergoing a material change of use to create a dwelling (whether or not the same building contained a dwelling before the renovation).</p> <p>The government proposes requiring every residential building undergoing major renovation (see paragraph 3.7) with more than 10 car parking spaces to have electric vehicle chargepoints fitted in every car parking space.</p>	<p>The Welsh Government proposes every new non-residential building with more than 10 car parking spaces and every non-residential building undergoing a major renovation or material change of use with more than 10 car parking spaces to have one chargepoint and cable routes for an electric vehicle chargepoint for one in five spaces.</p>	<p>The Welsh Government is not currently proposing a requirement for chargepoints in existing non-residential buildings (that are not undergoing a major renovation or material change of use).</p> <p>In future we will consider how the provision of chargepoints in existing non-residential premises can be encouraged allowing for a tailored approach which considers the size of the car park in question and the size of the business that owns it.</p>

The requirements we are proposing also apply to car parking spaces in or adjacent to buildings.

2. EV chargepoint installations

2.1 Introduction

This section provides an overview of electric vehicle (EV) charging equipment typically found in practice and describes the process to install a chargepoints in residential and non-residential settings.

2.2 Technical characteristics and types of chargepoints equipment

Electric vehicle charging can be undertaken at different speeds of charging depending upon the type of vehicle, usage pattern of the location and type of chargepoint. The table below sets out the key charging types, where they are normally found and an indicative charging time. It should be noted that there is a significant range of power requirements for chargers depending upon the location and charging periods as indicated:

Table 2: Electric Vehicle Chargepoint types

Chargepoint Power	Chargepoint electrical supply type (see note (a), below)	Connector (See note (b), below)	Mode (See note (c), below)	Typical Location	Example charging period/time ⁶
3.5kW	AC	Type 1/ Type 2 ⁷	Mode 3	Homes, on-street locations, destinations	c. 11 hours
7kW	AC	Type 1/ Type 2	Mode 3	Homes, on-street locations, destinations	c. 5 - 7 hours
22kW	AC	Type 1/ Type 2	Mode 3	Destinations	c. 2 hours
50kW	DC	CCS/ CHAdeMO	Mode 4	Motorway Service Areas / destinations	<1 hour
150kW+	DC	CCS/ CHAdeMO	Mode 4	Motorway Service Area / destinations	<30 minutes

⁶ From 0 to 100 per cent, 40kWh Nissan LEAF. Note that this is for illustration only - a 40kWh Nissan LEAF cannot charge at ultra-rapid (150kW+) speed.

⁷ Type 2 connectors are becoming the standard across the vehicle manufacturing industry for charging at slower speeds.

- (a) ChargePoint electrical supply type:** Charging can be AC, where alternating current (AC) is supplied to the vehicle and vehicle converts the alternating current to direct current (DC) to charge the battery. Or the charging current can be DC, where the alternating current is converted to DC within the chargepoint before it is supplied to the vehicle.
- (b) Connector:** The type of connector varies from vehicle to vehicle and depends on whether they are for low (AC) or high (DC) power use as indicated within table 2 above. The CHAdeMO and CCS connectors are both DC, and the Type 1 and Type 2 connectors are AC. On the vehicle side, European models (e.g., VW, Volvo, Audi) usually have a CCS connection, whereas Asian models (e.g., Nissan and Mitsubishi) usually have a CHAdeMO connection.
- (c) Mode:** BS EN 61851-1 2019 standard defines the different modes for electric vehicle charging. Mode 3 and 4 are specialised systems for EV charging running from a dedicated circuit. Mode 1 and 2 use non-specialised infrastructure (e.g., the domestic socket). Mode 1 provides no residual-current device (RCD) protection and is not considered safe, whilst Mode 2 provides RCD protection but charging power will often be limited by vehicle protocols to charging at 1.4kW to 2.3kW

2.3 Process for installing the EV chargepoint in buildings.

There are several steps that need to be undertaken taken to install a chargepoint in a new building. Figure 1 outlines the key steps for installing EV chargepoints and associated infrastructure in new buildings.

(a) Energy Supply

For the chargepoints to work, they need to be connected to a power supply and there needs to be sufficient electrical capacity available. A user's connection is based on the required capacity. This is provided by Independent Distribution Network Operators (IDNOs) or Distribution Network Operators (DNOs)

(b) Cable routes

Cable routes (or "ducting infrastructure") run from the power supply to the envisaged chargepoint location in the individual parking spaces. This could take different forms depending on the building type, for instance cable routes could be facilitated by accessible trunking, conduits, or cable trays.

(c) Cabling

The electrical cabling runs from the electrical supply point to the individual parking spaces, through the dedicated electrical cable containment systems, such as underground ducts. The size of a cable will depend on a number of factors including the rated power of the chargepoints it is intended to serve and the distance from the power supply to the chargepoint

(d) Chargepoint

The installation of the physical chargepoint, either a wall-box or a standing feeder pillar

3. Proposed Building Regulations for new residential buildings and residential buildings undergoing major renovation or material change of use.

3.1 Introduction

This section seeks views on our proposal for the installation of chargepoints to serve parking spaces physically adjacent to new residential buildings and residential buildings undergoing major renovation or a material change of use. Parking spaces physically adjacent is defined legally as "within the site boundary of the dwelling".

3.2 Proposed requirement

Welsh Government proposes the new regulations in accordance with the policy provisions set out in section 1.3.8 of this consultation document. Namely that:

- **Every new residential building with an associated car parking space to have a chargepoint (minimum nominal rated output of 7kW). This requirement also applies to residential buildings undergoing a material change of use to create a dwelling.**
- **The government proposes requiring every residential building with 10 or more car parking spaces to have a chargepoint in every car parking space.**

The Building Regulations will provide an overarching functional requirement for the provision and safety of EV charging infrastructure, set out in Schedule 1 to the Building Regulations, and several new regulatory requirements. Guidance for achieving compliance with the regulatory requirements for the provision and safety of EV charging points will be set out in a new Building Regulations Approved Document S (AD).

In some cases, the policy requires the installation of 'ducting', or cable routes, for every parking space for new residential buildings and residential buildings undergoing major renovation or change use. This is intended to enable the installation of EV chargepoints at a later stage. The requirements apply where the building has a car park with more than 10 parking spaces and:

- a) the car park is located inside the building, and, for major renovations, renovation measures include the car park or the electric infrastructure of the building; or
- b) the car park is physically adjacent to the building, and, for major renovations, renovation measures include the car park or the electrical infrastructure of the car park.

3.3 Benefits of this approach

Requiring the installation of a chargepoint in new dwellings has a few benefits:

- a) ensuring that homes have the necessary infrastructure to support future EV uptake, which is not currently being routinely provided in new homes.
- b) providing the best value for money, by avoiding more costly retrofitting and unnecessary disruption in the future. For the average home, the cost of installation of a chargepoint upfront is £1,100 (+/-£400) compared to £2,300 (+/-£1,100) for retrofit. This makes an average cost saving of £1,200 (+/-£700) per chargepoint.
- c) providing a 'nudge' to help support our ultra-low emission vehicle uptake ambitions. If chargepoints become readily available in the homes, a key barrier to purchasing an EV is removed, driving further uptake of EVs.
- d) creating increased demand for chargepoints to bring down their cost.
- e) the provision of adequate and safe chargepoints will help deter customers from defaulting to dangerous solutions to charge their vehicles, such as extension leads plugged into standard socket outlets trailing across walkways.

Surveys shows that there is strong support for EV chargepoints to be installed as standard in new buildings - 68% of respondents to a recent AA survey⁸ supported these proposals.

3.4 Identified Risks

There are risks associated with introducing this requirement. Some of the chargepoints may not be required immediately. However, we expect electric vehicle uptake to ramp up significantly in the coming years, so many of the chargepoints required will be used within their estimated 15-30 year lifespan⁹. Considering our uptake ambitions, we assume that most chargepoints installed under the regulations are likely to be used. It is also key to note that the chargepoint cabling, cabling routes and required electrical capacity have a much longer lifespan.

This policy would increase yearly demand for domestic chargepoints significantly. We want to see chargepoint manufacturers and operators grow to meet this demand.

⁸ AA survey - April 2019 - Electric Vehicles

⁹ Indicative economic life expectancy is given in Appendix 12.A1 of CIBSE Guide M. There are no specific guidelines for electric vehicle chargepoints, but reasonable inferences could be made based on general electrical equipment. <https://www.breeam.nl/english-9>

3.5 Consideration of alternative options

3.5.1 Option 1: Lower cost provision (cabling routes or 'ducting infrastructure')

An alternative option to facilitate chargepoint installation is to only require the installation of routes for electric vehicle cabling in the future. These routes are commonly described as 'ducting infrastructure'.

This would be less costly for the developer than a full chargepoint and would help future-proof new houses by making the later instalment of chargepoints cheaper. However, the benefits to the consumer are also reduced. With cabling routes, the costs of installing the chargepoint at a later point will be higher and will require an electrician to visit the home, a potential barrier to future electric vehicle purchase. Furthermore, as the cabling routes are less visible to the individual consumer (and may not realise the cabling routes exist), the government do not consider there to be the same benefit with regards to EV uptake as with a physical chargepoint.

3.5.2 Option 2: Lower cost provision (cabling)

Another option is to set a requirement for the enabling electrical cabling for an EV chargepoint only (including cabling routes, cables, and the necessary electrical capacity at the distribution board).

Welsh Government does not consider this an appropriate minimum requirement. It would add a cost for the developer at the time of construction of c.£500 (+/-£400) for an average home, without offering the same 'nudge factor' benefit as a physical chargepoint. Furthermore, the homeowner would still have to pay the additional (higher) cost of installing a chargepoint at a later point.

3.6 Proposed requirement for one chargepoint per 'Dwelling' within the building regulations.

3.6.1 General overview

Welsh Government proposes to include any residential dwelling with an associated car park space within the scope of the building regulations.

The same benefits of installing chargepoint infrastructure in residential buildings with more than 10 car parking spaces apply to buildings with fewer associated parking spaces and even houses with only one associated car parking space. The requirement will also apply to the parking spaces associated with dwellings in mixed-use buildings.

Therefore, the intention is for there to be one chargepoint per dwelling rather than per parking space. This means that for dwellings with more

than one associated parking space, there will only be a requirement for one chargepoint to be installed¹⁰.

We have drafted the technical guidance (see Annex A) to reflect this, requiring a chargepoint for new dwellings where parking spaces are provided within the site boundary of the building which are intended to be used by multiple dwellings. The number of parking spaces which have access to an electric vehicle chargepoint should be a minimum of the lower of:

- a) the total number of parking spaces
- b) the total number of dwellings served by the car park.

Proposed exemptions from the proposal to provide EV charging points to dwellings are detailed in section 6.

3.7 Major Renovations to residential buildings

Welsh Government propose a requirement for chargepoints to be installed in all residential buildings with more than 10 parking spaces undergoing major renovation, with some exemptions (see section 6).

A major renovation is defined, in line with Building Regulations, as a change where more than 25 per cent of the surface area of the building envelope undergoes renovation. The requirement will further be restricted to only apply in cases where the major renovation works includes any of the following:

- a) The car park.
- b) The electrical infrastructure of the building where the car park is located inside the building.
- c) The electrical infrastructure of the car park, where the car park is located adjacent to the building.

There are benefits in mandating the installation of a chargepoint (rather than just cable routes) for major renovations, especially in relation to multi-dwelling buildings. The cost of retrofitting chargepoints in car parks connected to multi-dwelling buildings when no major renovation is underway is so high that this is not often delivered voluntarily by the market, which can create a barrier for EV uptake. Considering this, it appears to be favourable to introduce a requirement for chargepoints to be installed when a major renovation (involving the car park) is already taking place, to take advantage of the associated cost savings. We are mindful, however, that this requirement would increase the capital cost of major renovations, and that this capital cost might ultimately fall on existing leaseholders. We also do not wish to discourage major renovations taking place by adding unacceptable additional costs to works. The same cost challenge is not usually present in single dwelling settings, and there are more potential problems where a renovation

¹⁰ Note that for residential buildings with more than 10 car parking spaces, cable routes must be installed for all parking spaces.

of a separate part of the dwelling could result in the requirements being triggered.

If we were also to apply the chargepoint requirements to residential buildings undergoing major renovations, we would look to apply some limitations (see discussion in section 6.2.3). The definition of major renovations used in this part overall, combined with these limitations, means that the requirement is likely to only apply in a very limited number of circumstances.

Our intention is to ensure that the introduction of this requirement does not add such a burden on developers that certain developments become unviable. We are therefore looking to include an exemption for buildings where it is not technologically feasible to include an EV chargepoint (in these cases only the requirement for cable routes would apply, unless this was also unviable as detailed in section 6).

3.8 Material change of use to residential buildings

The Welsh Government proposes to apply the regulations to instances where a non-residential building is converted into a dwelling, what is known as "material change of use" in the Building Regulations. Material change of use is defined in Regulation 5 of the Building Regulations 2010. According to the definition, this involves the creation of a new home, and is therefore covered by Welsh Government's commitment.

Material change of use (extract Regulation 5, Building Regulations 2010)

For the purposes of paragraph 8(1)(e) of Schedule 1 to the Act and for the purposes of these Regulations, there is a material change of use where there is a change in the purposes for which or the circumstances in which a building is used, so that after that change—

- (a) the building is used as a dwelling, where previously it was not.*
- (b) the building contains a flat, where previously it did not.*

We propose this requirement also applies to buildings undergoing a material change of use to create a dwelling (e.g. an office building is converted into flats).

The government proposes requiring every residential unit formed by a material change of use to have access to an electric vehicle charge point unless this was deemed unviable as detailed in section 6.

3.9 Consultation questions

Question 1:

Do you agree with our proposed policy position that every new residential building with an associated car parking space to have an electric vehicle (EV) chargepoint?

Question 2:

Please give reasons for your answer including, where applicable, any alternative requirement you think would be suitable.

Question 3:

Should the proposed Building Regulation requirement to install a chargepoint in every new home also apply to residential buildings undergoing a major renovation?

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

Question 4:

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

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

Question 5:

In buildings where it is not technologically feasible to include a chargepoint, is this an appropriate case for exemption to apply and if so, what is the appropriate threshold for this exemption to be triggered?

Question 6:

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

Question 7:

Please give reasons for your answer including, where applicable, any alternative requirement you think would be suitable.

Question 8:

Should the proposed Building Regulation requirement for electric vehicle chargepoint and infrastructure apply where the building has undergone a material change of use as defined in paragraph 8(1)(e) of Schedule 1 to the Act, a) or b) of Regulation 5 of the Building Regulations 2010?

Question 9:

If you disagree, please explain why.

Question 10:

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?

Question 11:

If you disagree, please explain why.

4. Proposed Building Regulations changes:

New non-residential buildings and non-residential buildings undergoing major renovation or material change of use.

4.1 Introduction

This section seeks views on our proposal for non-residential buildings such as car parks physically adjacent¹¹ to new non-residential buildings and non-residential buildings undergoing major renovation or material change.

The Building Regulations will include provisions for electric vehicle charging infrastructure in non-residential buildings to ensure that places like workplaces and retail car parks have a minimum level of EV charging infrastructure to support future EV uptake. The provision of chargepoints in key non-residential locations will provide a further 'nudge' to help support EV uptake and remove a key barrier to purchasing an EV.

4.2 Proposed requirement

The Welsh Government proposes every new non-residential building with more than 10 parking spaces and every such building undergoing a major renovation or material change of use to have one chargepoint and cable routes for an electric vehicle chargepoint for one in five spaces.

In situations where the building is mixed-use, i.e., the building contains both dwellings and non-dwellings, the requirement will only apply to the parking spaces dedicated to the parts of the building which are not dwelling.

4.3 Benefits of this approach

These requirements will mean that it will be easier to install chargepoints in the spaces with cable routes in the future; and visitors can have confidence the building will have at least one chargepoint. This requirement would lead to the installation of thousands of more public chargepoints in destinations such as supermarkets, workplaces, and public car parks, which will help support the development of an accessible and convenient charging infrastructure for drivers. The proposed technical requirements for the chargepoint and cable routes are set out in section 5.

Installing chargepoints and cable routes at the time of construction or renovation will also be less costly than retrofitting. Installing a chargepoint upfront in an average non-residential carpark is around £1300 (+/-£700) less expensive than retrofitting a chargepoint at a later point. Furthermore, the installation of cable routes at the time of construction in non-residential car parks can make the installation of chargepoints later around £2400 (+/- £1,800) less expensive than a full retrofitted chargepoint.

The demand for chargepoints and the type of chargepoints needed at non-residential buildings is mixed and will depend on how the building is used (i.e.,

¹¹ Defined legally as "within the site boundary". See detail in section 6.

rapid chargepoints may be needed for buildings with short dwell times, whereas slower chargepoints will be more suitable for workplaces) and the wider provision of chargepoints in the local area. Welsh Government therefore does not consider it appropriate to set a more prescriptive standard for all non-residential buildings through Building Regulations. Where there is a commercial case, we anticipate businesses will install more chargepoints than the minimum requirement in the Building Regulations.

We will cover the possibilities for buildings to be exempt from the Regulations in section 6.

4.4 Consultation question

Question 12:

Do you agree with the Welsh Government proposed policy position?

Please give reasons for your answer including, where applicable, any alternative requirement you think would be suitable.

5. Technical specifications of Building Regulations

5.1 Introduction

Approved Documents (ADs) are provided alongside the Building Regulations to provide guidance about how to comply with the regulations. Welsh Ministers are publishing a draft version of the AD text alongside this consultation (Annex A).

Please note that the UK government has consulted separately on introducing regulatory requirements for chargepoints to be smart enabled, enabling electric vehicles to be integrated into our future smart and flexible energy system. Therefore, while we do not plan to specify smart functionality for the chargepoints in the AD, in practice, this is likely to be required through other means.

Welsh Ministers intend to keep the AD under review to ensure that the specifications continue to be appropriate in the coming years.

5.2 Safety considerations

The installation of EV chargepoints and enabling infrastructure needs to meet relevant safety standards. These include requirements for physical and weather protection, adequacy of electric supply and protection against electric shock and circuit overloading and earthing and bonding to reflect existing arrangements in the building and location of the EV chargepoint.

Electrical safety is likely to be outside the scope of the regulation which implements the EV charging requirements because electrical safety requirements are dealt with by other legislative requirements.

In the draft Approved Document (AD), we propose referring to the regulations, statutory guidance and codes of practice that relate to electrical safety. These include Approved Document P: Electrical safety – dwellings, Electricity at Work Regulations HSR25, BS7671:18th edition (2018) and the IET Code of Practice for EV Charging.

Mindful of the safety aspects of installing EV chargepoints we also propose to amend the Building Regulations to make clear that the installation, addition, or alteration of dedicated circuits and earthing and bonding arrangements for EV chargepoints is notifiable building work (this is building work where a building regulations application is required to be submitted to a building control body). Under the current rules, this means that the work, where it is under the scope of Part P of the Building Regulations, would either have to be carried out by an installer registered with an approved Competent Person Scheme or, where the work is carried out by an unregistered installer, this would need to be checked by a building control body.

6. Key exemptions considerations

6.1 Introduction

Our intention is to only include buildings where it is appropriate to install EV chargepoints. This section discusses the issues and seeks views on appropriate exemptions for our proposed policy positions.

6.2 Discussion regarding potential exemptions from the building regulations.

6.2.1 Electrical capacity cost considerations

One factor that can drive up the cost of installation of chargepoints considerably is the cost of securing the necessary additional electrical capacity to a building (see the impact assessment at Annex B for more detail on grid connection costs and section 3 & 4 for more detail on electricity supply to buildings). The electrical capacity requirements could be considerable when considering the EV chargepoints types generally available as indicated in Table 2 of this consultation.

The costs of installing the cables and the chargepoint hardware will vary considerably based upon site-specific conditions in relation to the local grid. In certain cases, the need to install chargepoints could necessitate significant grid upgrades which will be costly for the developer. Some costs would also fall on the distribution network operator. In the instances when this cost is exceptionally high, and likely to make developments unviable, it is Welsh Government's view that the full chargepoint requirements should not apply and only cable routes should be provided.

A draft of this technical feasibility criteria has been outlined in section 1.1 to 1.7 of the draft Approved Document. We suggest for the threshold for the exemption to be set at approximately 2 and a half times the high scenario cost of the average electrical capacity connection required for a chargepoint in a multi-dwelling building, which according to the costs we have collected is at £3,600 per chargepoint because the high cost in our impact assessment is £1400¹² (see Annex A4 in the residential impact assessment in Annex B). The intention of the threshold is to only exempt developments where the installation of chargepoints would result in developments not being taken forward because of this cost.

We consider that setting a relatively high threshold creates an incentive for developers to work with chargepoint operators and distribution network managers to find innovative solutions in circumstances where the electrical capacity is constrained. This could include load

¹² We are seeking further evidence on costs as a part of this consultation. If the estimated high scenario cost changes because of this consultation, we will move the threshold accordingly.

management and battery storage technologies, which are now more widely available on the market than in previous years.

6.2.2 Material change of use considerations

A requirement to install chargepoints in cases of material change of use¹³ could, in some cases, trigger a need for a new power supply to the car park, which could be costly. Welsh Government does not want to create an unnecessary financial burden for developers that could restrict new dwellings being created from material change of use and therefore do not intend for the requirements to trigger the need for a new power supply. The intention of Welsh Government is therefore to limit the application of the proposals to instances where a new connection is needed, and to only require installation of the number of chargepoints that can be accommodated within the existing power supply.

There are some circumstances in which listed buildings and buildings in conservation areas could undergo a material change of use. To protect the characteristics of these buildings, it may be appropriate to exempt them from the chargepoint requirement where the requirement may prejudice the character of the building. We would like to seek views on whether any such exemption would be suitable and which buildings it would be appropriate to apply to. We suggest exemptions for building undergoing a material change of use, as follows:

- a) listed in accordance with section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990.
- b) in a conservation area designated in accordance with section 69 of that Act; or
- c) included in the schedule of monuments maintained under section 1 of the Ancient Monuments and Archaeological Areas Act 1979,

The exemption would only apply, when compliance with the chargepoint requirement would unacceptably alter their character or appearance.

¹³ Defined in Regulation 5, a) and b), see Box 3

6.2.3 Consultation questions

Question 13:

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

Question 14:

If you disagree, please explain why.

6.2.4 Major renovations considerations

To provide the requirement of chargepoints for both residential and non-residential buildings, we consider a 7 per cent cost cap to be a suitable exemption as we do not wish to put disproportionate costs on developers, and potentially stop needed major renovations. We therefore intend to add an exemption to the regulations for major renovations where the cost of installing the chargepoints (or cable routes) exceeds 7 per cent of the total cost of the major renovation of the building.

If we wish to apply a further chargepoint requirement for major renovation, we can also apply some further exemptions. Welsh Government welcomes views on appropriate exemptions. We are aware that the cost of installing a chargepoint in a car park can be very costly in cases where this means that a new electricity supply must be introduced to the building. Therefore, to ensure that we do not discourage important major renovation work from being undertaken because of these regulations, we propose to only apply the requirement in cases where there is adequate spare capacity in the incoming electrical supply to the car park. Even if the exemption is applied, the minimum requirements for cable routing would still apply.

Similarly, in relation to residential buildings, we consider a 7 per cent cost cap for major renovations to non-residential to be a suitable exemption.

Proposals for exemptions for charge point requirements for spaces in enclosed or open-sided car parks; and residential properties undergoing major renovation for the purposes of fire safety remediation have been included to reflect issues raised during the similar building regulations consultation in England.

6.3 Consultation questions

Question 15:

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?

Question 16:

If you disagree, please explain why.

Question 17:

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?

Question 18:

If you disagree, please explain why.

Question 19:

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?

Question 20:

If you disagree, please explain why.

6.3.1 Summary of proposed exemptions

Table 3: Summary of proposed exemptions

No.	Exemption	Residential	Non-Residential
1.	New residential buildings where the installation of charge points would increase grid connection costs by more than £3,600 per charge point.	Proposed	N/A
2.	Exemption for buildings undergoing material change of use for listed buildings, buildings in conservation areas and buildings included in schedule of monuments.	Proposed	N/A
3.	For buildings undergoing material change of use the policy will only require the installation of the number of charge points which can be accommodated within the existing power supply.	Proposed	N/A
4.	For residential buildings undergoing major renovation, the policy will only require the installation of the number of charge points which can be accommodated within the existing power supply.	Proposed	Proposed
5.	For major renovations, where the cost of the installation of electric vehicle infrastructure exceeds 7 % of the total cost of the major renovation of the building.	Proposed	Proposed
6.	The charge point requirements do not apply to spaces in	Proposed	Proposed

	<p>enclosed or open-sided car parks (e.g. basements, those below buildings and multi-stories).</p> <p>Cable route requirements should still be met in new buildings, buildings undergoing material change of use to create dwellings and buildings undergoing major renovation, as above.</p> <p>This exemption does not apply to locations such as individual garages.</p>		
7.	<p>Exemption for residential properties undergoing major renovation for the purposes of fire safety remediation due to historical fire safety deficiencies (i.e., cladding remediation).</p>	Proposed	Proposed

7. Impact Assessment

The government is publishing a consultation stage Impact Assessment alongside this consultation. The Impact Assessment is based on some key assumptions around the development of the EV and the EV chargepoint markets.

The data on the costs associated with EV charging in new buildings has been collected through the UK Government assessment. These costs have a large degree of variation, to reflect the range of real-world circumstances likely to be encountered, particularly with regards to grid connection costs as these are highly location specific. As with any new market, there is uncertainty around how these costs are likely to develop in the future.

7.1 Consultation questions

Question 21:

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

Question 22:

If you do not agree, please provide supporting evidence.

8. Transitional arrangements/Lead in times

A six-month period will be put in place, between the laying and coming into force of the regulations, during which properties which have their initial/ building notices or full plans deposited will not be legally required to meet the regulations.

Whenever changes to the Building Regulations or approved standards take place, transitional arrangements apply. When a developer submits a building notice or full plans application to the local authority, the Building Regulations standards in place at the time of the application will apply, so long as work under the building notice or full plans application has already started or starts within a specified period of the notice being given.

Where a building notice, initial notice or full plans deposit has been submitted to the building control body before the 2025 Part S amendments come into force, we propose that the transitional arrangements should only apply to individual buildings on which building work has started within a reasonable period. We propose that a reasonable period for this purpose is the period of 1 year from the date the 2025 Part S amendments come into force.

This would mean that the transitional provisions would provide that where:

- (a) building work on an individual building that has been commenced in accordance with any relevant notification provision (notification of building work being commenced) prior to the coming into force date of the Part S amendments; or
- (b) a relevant notification provision has been complied with in relation to proposed building work and the individual building has commenced within one year of the regulations come into force; or
- (c) applications submitted prior to the coming into force date of the amendment regulations and commenced building work within 12 months of the of the regulations come into force, then the 2025 Part S amendment would not apply.

8.1 Consultation questions

Question 23:

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

Question 24:

What, in your opinion, would be the likely effects of the proposed amendments would have on the Welsh language? We are particularly interested in any effects on opportunities to use the Welsh language and on treating the Welsh language less favourably than English.

Do you think that there are opportunities to promote any positive effects?

Do you think that there are opportunities to mitigate any adverse effects?

Question 25:

In your opinion, could the proposed actions be formulated or changed so as to:

- have positive effects, or more positive effects on using the Welsh language and not treating the Welsh language less favourably than the English, or
- mitigate any negative effects on using the Welsh language and on treating the Welsh language less favourably than English?

Question 26:

We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them:

9. Next Steps

This consultation will close on 29 November 2024. Responses to this consultation will be analysed and a Welsh Government Response will follow.