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Electric Vehicle Round-up

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EV chargepoints to be required by Law

The Electric vehicle chargepoints in residential and non-residential buildings consultation (accessed **here**) ran from 15 July 2019 to 7 October 2019 ("**Buildings Consultation**"). The Buildings Consultation response was published on 22 November 2021 and sets out the government's intent to require, among other things;

— new dwellings with a car parking space to have a chargepoint; and
— residential properties undergoing major renovation, which will have more than 10 parking spaces after the renovation is complete, to have a chargepoint for each dwelling with associated parking within the site boundary, and cable routes in all further spaces.

We set out these requirements in more detail below. The Buildings Consultation did not take forward the consultation areas that focussed on non-residential buildings.

Requirements for new dwellings

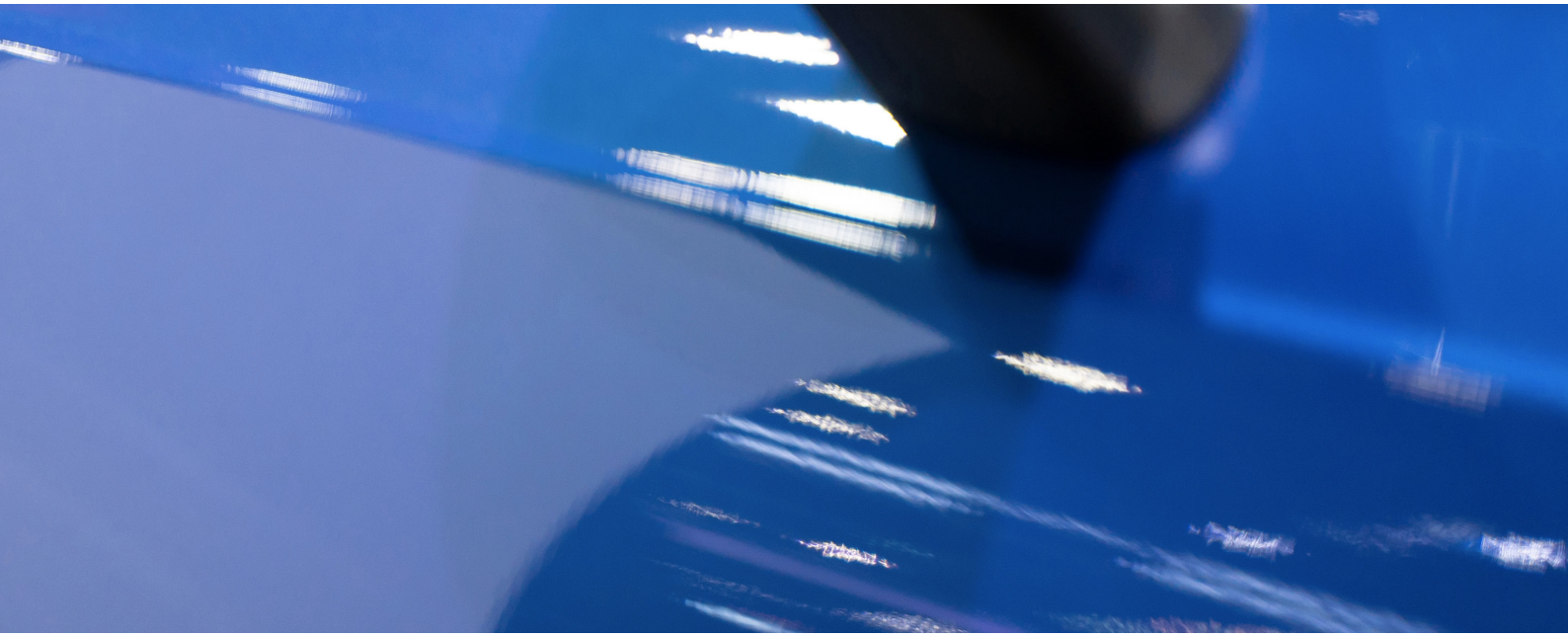
This requirement will apply to all new build dwellings, as well as new dwellings created through a material change of use, with associated parking within the site boundary of the building. This means it will apply to both homes and flat developments with off-road parking.

The regulations will mandate one chargepoint per dwelling and will be implemented through building regulations which are due to be laid in Parliament for enactment this year.

The regulations will require that each chargepoint should have a minimum charging power of 7kW, be at least Mode 3 (or equivalent) and be untethered. It is hoped that this provides sufficient future proofing for new home owners. Note also the developments in smart charging regulations (covered further in this quarterly round-up, and our Law Now article **here**) that will set minimum standards on the connectivity requirements of these chargers.

Important exemption will be included in the regulations:

— for new builds, where the installation of chargepoint(s) would increase grid connection costs by more than £3,600 per chargepoint, only cable routes are required to be installed. This level was chosen by the government as it is three times the high scenario costs of the average electrical capacity connection. The consultation report argues that this strikes the balance of increasing chargepoints adoption while not introducing a prohibitive cost to house building development;
— for change of use, the regulations will only require the number of chargepoints to be installed that can be accommodated in the existing power supply; and



— various exemptions for listed buildings or buildings in conservation areas. Requirement for residential properties undergoing major renovation.

This requirement will apply to all residential properties undergoing major renovation with more than 10 parking spaces within the site boundary of the building after the renovation is complete. The regulation will mandate one chargepoint per dwelling and cable routing for all further parking spaces.

Similar to the previous requirement, important exemptions will be included in the regulations:

— the regulations will only require the number of chargepoints to be installed that can be accommodated in the existing power supply;
— various exemptions for listed buildings or buildings in conservation areas; and
— the cost of the chargepoint and cable routes installations exceeds 7 % of the total cost of the major renovation of the building are exempt.

The requirement will contain the same minimum standard for the charging points as applies to new dwellings.

Comment

The proposals are significant and could have the ability to normalise residential charging for new housing developments. The regulations could see 145,000 EV chargepoints being installed across England each year.

Further questions remain about local grid capacity for the build out of EV charging, with Ofgem taking steps to ensure that Distribution Network Operators are equipped and incentivised appropriately (as covered our previous EV quarterly accessed **here**).

Wide ranging EV regulatory review

The Future of transport regulatory review: zero emission vehicles (accessed **here**) ran from 28 September to 22 November 2021. The consultation response is currently awaited and it proposes, among other things:

— a Rapid Charging Fund;
— a statutory obligation on Local Authorities to plan for and deliver charging infrastructure; and
— a requirement for a minimum number of chargepoints in non-residential carparks.

Rapid Charging Fund

A new £950 million Rapid Charging Fund was announced for England. It will be administered by a delivery body which will:

— accept funding applications from motorway and major A road service areas;
— examine the applications to ensure the requested connection size is based on robust estimates of expected demand from a 100% zero emission vehicle fleet; and
— potentially act as the owner of the new/ upgraded connection, leasing capacity to applicants.

The Government hopes that investment into rapid en-route charging will address range anxiety for longer journeys.

The consultation references the Competition and Markets Authority EV charging market study (as covered in our Law-Now **here**) which raised issues about exclusivity arrangements in motorway service areas. The consultation states that the Government is considering how to ensure long-term competition is maintained at sites by requiring service area operators and large fuel retailers to:

— tender chargepoint service contracts openly; and
— have a minimum of 2 (and at some sites more than 2) different chargepoint operators at any particular site.

Proposed statutory obligation on Local Authorities to plan for and deliver charging infrastructure

Currently, public chargepoints (on-street and rapid hubs) are procured and installed at the discretion of local authorities. The consultation recognises the steps taken by some local authorities but states that discrepancies exist across the country. It states that some authorities have not yet identified what is needed and risk not meeting the current and future needs of their communities.

The Government has proposed two separate statutory obligations upon local authorities to (i) plan for EV charging infrastructure; and (ii) deliver EV charging infrastructure. The consultation recognises that any such statutory obligation would require further consultation to determine the relevant definitions, metrics and other applicable measures. Proposed requirement for a minimum number of chargepoints in non-residential carparks.

This requirement would build upon the regulations proposed as a result of the Buildings Consultation as covered above. The consultation asked whether the chargepoints requirements should extend to destination charging including: (i) publicly accessible parking (including retail, leisure and healthcare car parks); and (ii) not publicly accessible parking but provided for the use of a particular group (such as a workplace car park).

It also asked whether a minimum number of chargepoints should be prescribed.

Comment

Introducing a requirement for destination chargepoints at non-residential carparks would appear to be a natural progression of the residential parking requirements. However, the commercial structure of destination chargers is different from residential charging (the chargepoints are operated by a chargepoint operator ("**CPO**") who charge for their services at a premium). CPOs are already building out EV infrastructure with destination car park owners. Some may argue that car park owners and CPOs are best placed to determinate the roll-out in accordance with expected utilisation levels rather than simply meeting a minimum quota, and ensuring that resource is focussed on areas where it is needed. The outcome of the consultation will be keenly awaited by the industry.

V2X – steps forward to commercial application

We have previously covered the policy approach of vehicle-to-x ("**V2X**") technologies (see our Law-Now article **here**). V2X technology enables a wider network to draw power from an EV battery in response to peaks in demand or other system requirements, such as frequency. One implementation of V2X is 'Vehicle-to-Grid' ("**V2G**") systems that allows aggregation of EV batteries to provide flexibility into the balancing market.

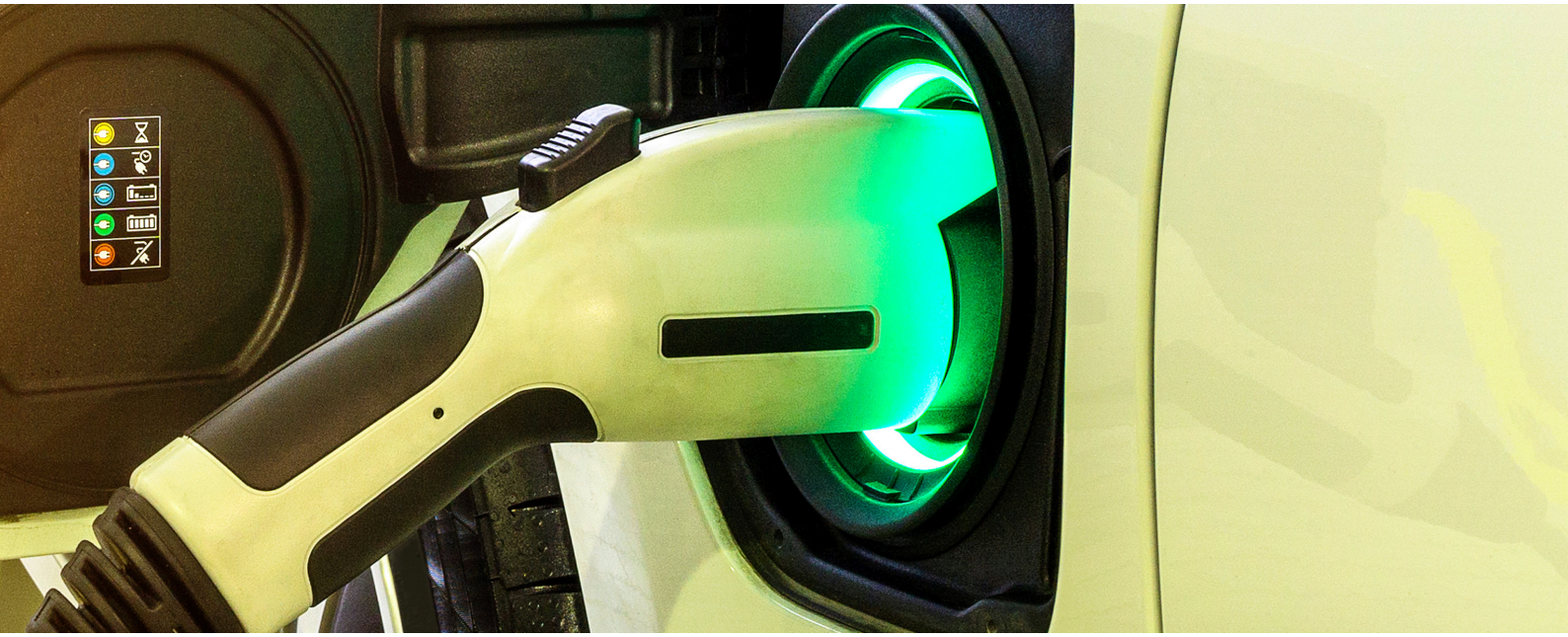
BEIS consultation

From October to December 2021, the Department for Business, Energy & Industrial Strategy ("**BEIS**") ran a **consultation** on whether any new generating technologies should be eligible to participate in future Capacity Market auctions. The Capacity Market rules require such a consultation every year, and in the October 2020 consultation, it was noted that there was the need to consider how EVs that are connected to the grid could access the Capacity Market. In its 2021 response, BEIS acknowledged respondents submissions that V2G is currently an emerging technology but is expected to become commercially viable soon. BEIS has not committed to any further Capacity Market changes but will continue to consider the emerging technology.

Commercial implementation

SSE is **partnering** with Jedlix – a Netherlands-based smart charging provider – to allow domestic EV charging customers to provide flexibility into the grid balancing market at times of system need, as well as helping Jedlix users and partners minimise costs through SSE's access to the Balancing Mechanism. A cashback is awarded to EV drivers, alongside any savings made on their energy bill in return for their flexibility.

This follows other implementations of **V2G** solutions, including the Octopus Electric Vehicles Powerloop **V2G** project which **announced** that it is preparing a route to be the first to enter National Grid ESO's Balancing Mechanism.



Chargepoint smart charging regulation

As covered earlier in this Round-Up, under the **AEVA** 2018 the Government has powers to enact regulation to require chargepoints sold or installed in the UK have 'smart charging' functionality included. Following a consultation in the Summer of 2019 and the government's response in August 2021 (as we covered in our Law-Now article **here**), the Electric Vehicles (Smart Charge Points) Regulations 2021 were enacted on 15 December 2021 and will be brought into effect from 30 June 2022, with the cybersecurity requirements to follow in December 2022. A brief summary of the regulations is below:

— the regulations will apply to the sale of chargepoints for domestic use (public chargepoints are excluded), rather than installation, and will be enforced by the Office for Product Safety and Standards ("**OPSS**");

— manufacturers of chargepoints will have to provide a statement of compliance and technical file which should give detailed evidence of how the requirements in the regulations are met. This file will need to be made available to the OPSS upon request;

— there is a principle based approach to comply with requirements, and it does not mandate compliance with the new BSI Standards for Energy Smart Appliances (PAS 1878);

— all chargepoints must have smart functionality that allows it to send and receive information; and respond to this information by;
  1. increasing or decreasing the rate of electricity flowing through the chargepoint;
  2. changing the time at which electricity flows through the chargepoint; and
  3. use these functionalities to be capable of providing demand side response services;

— in order to support grid stability, smart chargepoints must contain a function that randomly delays the start time of any load control action. This randomised delay function will help reduce the risk of potential grid stability issues where large numbers of chargepoints switch on or off at the same time; and

— the cybersecurity requirements (which will apply later from December 2022) sets out a principled based approach requiring a chargepoint to be designed, manufactured and configures to provide appropriate protection:
  4. against the risk of harm to, or disruption of, the electricity system;
  5. against the risk of harm to, or disruption of, the relevant charge point; and
  6. for the personal data of the owner and any other end-user of the relevant charge point.

Government commissions design of EV chargepoints

On 10 November 2021, PA Consulting in conjunction with the Royal College of Art **announced** their design for a British **EV** chargepoint. The brief from the Department for Transport was to deliver an iconic British chargepoint design to match the likes of the red post box or black cab. It is hoped that a distinctive design will make chargepoints more recognisable for drivers and raise domestic and international awareness.

This announcement follows the launch of the government's Transport decarbonisation plan published earlier in summer 2021 (see our Law-Now article covering the plan **here**).

Automated and electric vehicle act report

On 19 October 2021, the Department for Transport and Office for Zero Emission Vehicles **published** the Automated and Electric Vehicle Act report, outlining what the Government has achieved in the development of EV charging infrastructure since the statute became law in 2018. The AEVA allowed the government to regulate, if necessary, to improve the consumer experience of charging infrastructure, to ensure provision at significant strategic locations (e.g. motorway service areas) and to require that chargepoints have 'smart' capability.

This report sets out the work undertaken in the first reporting period, which is pursuant to Part 2 of the AEVA and focuses on EV charging, which includes:

- a consultation in the summer of 2019 on enabling private electric vehicle smart charging (as we covered in our Law-Now article **here**), which has resulted in the Electric Vehicles (Smart Charge Points) Regulations 2021. These were enacted on 15 December 2021 and will be brought into effect from 30 June 2022 (see our story below); and
- a consultation in spring 2021 on improving the customer experience at public chargepoints (as we covered in our Law-Now article **here**).

The net zero strategy – impact for EV infrastructure

On 19 October 2021, BEIS **published** the Net Zero Strategy: Build Back Greener. This sets out the broader context of the UK's commitment to reach net zero emissions by 2050, with an emphasis on technology such as EVs. Transport is a key point within the Net Zero Strategy, particularly as it is the largest sector for UK greenhouse gas emissions - cars and vans alone represent 19% of all domestic emissions.

Key policies involving EVs aim to increase adoption and support supply chains. This is to assist with the 2030 commitment to end the sale of new petrol and diesel cars. The strategy sets out a commitment of £620 million of further funding for zero emission vehicle grants and EV infrastructure, including additional funding for local EV infrastructure, with a focus on local on-street residential charging.

EV sales continue to grow

Sales of battery electric car vehicles ("**BEVs**") in the UK increased by over 76% in 2021 compared to the year prior. **Figures** from the Society of Motor Manufacturers and Traders ("**SMMT**") show that 190,727 BEVs were sold in 2021 with an overall market share of 11.6% (compared to 6.6% the previous year).

SMMT notes, however, that there is only one on-street public charger installed per every 52 BEVs. The SMMT chief executive warned that more is needed if the rollout of public charging infrastructure is to keep pace with BEV uptake.

Sales are only set to grow. EVA England, a non-profit representing new and prospective EV drivers, has reported that the UK fuel supply crisis in September had an overwhelmingly positive impact on EV interest with a rise in inquires at EV dealers. The fuel supply crisis potentially acted as a catalyst for buyers, realising the shift to EVs would be helpful sooner rather than later. In addition, new regulatory measures, such as London's expansion of the ultra-low emissions zone, will likely see even more consumers switch to EVs in the near future.

It is also noted that the EV market is no longer limited to high tech innovators, with Nissan, VW and BMW all releasing popular models for the everyday consumer ahead of the 2030 petrol and diesel engine ban.

Work commences on UK's largest EV charging hub

Work started in November on the UK's largest public **EV** charging hub, at Redbridge near Oxford. The so-called "Superhub" will have 38 fast and ultra-rapid chargers, including 10 Fastned chargers with up to 300kW of power which can add up to 300 miles of range in 20 minutes.

The Superhub is being developed by Pivot Power and Oxford City Council as part of Energy Superhub Oxford, a pioneering £41 million project integrating rapid EV charging, hybrid battery storage, low carbon heating and energy management technologies to help Oxford achieve net zero by 2040. Unlike any other UK charging hub, the Superhub will be directly connected to National Grid's high voltage transmission network, avoiding additional strain on the local electricity network.

UK 4TH most 'EV Ready' nation

EY's **EV Country Readiness Index 2021** has ranked the UK fourth behind China, Sweden and Germany. The UK has a lower ratio of charge points to EVs on the road (0.08) than the global average (0.1), as well as around 2GWh of battery manufacturing capacity, just 4% of total European capacity. This is set to increase with plans for new gigafactories in Blyth (which is being developed by Britishvolt) and Sunderland (being developed by the Japanese carmaker Nissan).

Furthermore, the UK's only large-scale gigafactory, Envision, has confirmed plans for a huge expansion that will cement the factory as one of the biggest **EV** factories in Europe. It is envisaged that annual capacity of the plant will rise to 38 gigawatt hours (GWh), an increase from a previous plan of 11GWh that was announced as part of a supply deal for the Nissan's Sunderland plant.

Capacity in the UK is required to meet demand - the UK will require annual battery output of about 140GWh a year by 2040 if it is to sustain the EV transition, the government-backed Faraday Institution has calculated.

Key contacts

Laurence Kalman
Partner
T +44 20 7067 3078
E laurence.kalman@cms-cmno.com

Louise Dalton
Partner
T +44 20 7367 3449
E louise.dalton@cms-cmno.com

Freddie May
Associate
T +44 20 7367 2070
E freddie.may@cms-cmno.com

Sabrina Polito
Associate
T +44 20 7367 3675
E sabrina.polito@cms-cmno.com

Gregor Hunter
Associate
T +44 20 7367 3535
E gregor.hunter@cms-cmno.com

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CMS Cameron McKenna Nabarro Olswang LLP
Cannon Place
78 Cannon Street
London EC4N 6AF

T +44 (0)20 7367 3000
F +44 (0)20 7367 2000

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