Non-residential charging infrastructure provision

Lead department	Department for Transport
Summary of proposal	Requirements for electric vehicle charging infrastructure for carparks attached to new (and some existing ones undergoing major renovation) non-residential buildings with over 10 spaces**.**
Submission type	Impact assessment (IA) – 24 September 2021 (revised from 29 July 2021)
Legislation type	Secondary legislation
Implementation date	2022
Policy stage	Final
RPC reference	RPC-DfT-4407(2)
Opinion type	Formal
Date of issue	6 October 2021

RPC opinion

Rating[1]	**RPC opinion**
Fit for purpose	The data and analysis supporting the EANDCB figure has been strengthened since consultation. The IA includes a good assessment of impacts on small businesses and a good monitoring and evaluation plan. There are some areas for improvement, for example in relation to clarification of direct impacts on business and assessment of wider impacts.

Business impact target assessment

	Department assessment	**RPC validated**
Classification	Non-qualifying regulation provision	Non-qualifying regulation provision (*de minimis*)
Equivalent annual net direct cost to business (EANDCB)	-£3.9 million	*de minimis* *(2019 prices, 2020 pv)*
Business impact target (BIT) score	N/A	
Business net present value	£15.1 million	
Overall net present value	£219.5 million	

[1] The RPC opinion rating is based only on the robustness of the EANDCB and quality of the SaMBA, as set out in the Better Regulation Framework. The RPC rating is fit for purpose or not fit for purpose.

RPC summary

Category	Quality	RPC comments
EANDCB	**Green**	The RPC can confirm classification of the proposal as not qualifying against the business impact target. However, there are a number of areas where the IA would benefit from clarification.
Small and micro business assessment (SaMBA)	**Green**	The SaMBA helpfully uses a variety of sources to estimate the number of small and micro businesses affected and costs borne by these businesses. The assessment addresses the key elements of a SaMBA by discussing potential disproportionality of impact, exemption and other possible mitigation.
Rationale and options	**Satisfactory**	The IA provides a clear rationale for intervention supported by well-explained market failure arguments. The IA would benefit from discussing further options going beyond minimum requirements and alternatives to regulation.
Cost-benefit analysis	**Satisfactory**	The IA appears to be based upon a good level of information, which seems to have been improved following consultation. The IA also includes an extensive sensitivity analysis. The IA would benefit from further explanation of why estimates have changed significantly since consultation stage.
Wider impacts	**Satisfactory**	The IA would benefit from discussing further the issue of innovation and from discussing other potential wider impacts, such as competition and trade.
Monitoring and evaluation plan	**Good**	The IA includes a detailed monitoring and evaluation plan. The plan usefully sets out key research questions for the evaluation and the data that will be collected and monitored.

Summary of proposal

The Energy Performance in Buildings Directive (EPBD) requires car parks attached to new (and some existing ones undergoing major renovation) non-residential buildings with over 10 spaces to be fitted with at least one chargepoint and ducting for cables for one in five parking spaces. The UK is not bound by the requirements of the EPBD but, having consulted on these provisions, the Government believes it is within England's interests to proceed with these policy measures to support the transition to electric vehicles in line with its commitments to address climate change.

The Department estimates a net present value of £235 million (2019 prices; 2022 present value base year) over a 29 year period. The key monetised benefit is avoided higher retrofit installation costs to non-residential car park owners, estimated to be £698m over the appraisal period. Costs are estimated at £463 million, mainly accounted for by installation and net operating costs. The Department assumes 100 per cent of installation and familiarisation costs are direct impacts on business (non-residential property developers). Based upon information on the proportion of car parks owned by the public sector, the IA assumes that 63.5 per cent of benefits are direct impacts on businesses, resulting in an equivalent net direct cost to business (EANDCB) of -£3.9 million (2019 prices; 2020 present value base year).

Changes since the consultation stage IA

Although estimated costs have increased significantly since consultation stage, the proposal now has a positive NPV because avoided installation costs to non-residential car park owners have been monetised. Overall, the EANDCB has changed from £15.8 million to -£3.9 million.

EANDCB

Direct and indirect impacts

The RPC can confirm classification of the proposal as not qualifying against the business impact target as *de minimis* but welcomes the submission of the IA for scrutiny as it is a significant measure. Furthermore, there are a number of assumptions or dependencies in the estimation of the EANDCB figure that would benefit from being set out more explicitly.

Costs

The IA estimates familiarisation costs to both non-residential property developers/construction companies and car park owners, treating both as direct costs on business. The treatment of the cost of the requirement to install chargepoints as a direct cost to non-residential property developers (paragraph 133) suggests that the regulatory requirement falls on these businesses, rather than the owners of the non-residential building and attached car park. The IA would benefit from setting this out explicitly, particularly as a proportion of these owners (as acknowledged elsewhere in the IA) are public sector.

The IA treats maintenance and replacement costs as indirect costs to business as "…*these are potentially avoidable and are not a requirement of this regulation*." (paragraph 135). It is not clear how these costs are potentially avoidable or not at least an implicit requirement of the regulation. The case for treating these costs as indirect has not, therefore, been satisfactorily made. However, using the IA's figures, the RPC estimates that treating these costs as direct would only change the EANDCB from -£3.9 million to -£0.8 million, i.e. it would remain within the *de minimis* threshold. Nevertheless, the IA would benefit from explaining this area further and including this area in its sensitivity analysis.

Benefits

The avoided retrofit cost is treated as a direct benefit to owners of the non-residential building and attached car park, 63.5 per cent of which are estimated to be businesses. This treatment appears to be reasonable, although the IA would benefit from discussing its reasons for treating this as direct, drawing on the RPC guidance referred to at footnote 49.

Counterfactual/baseline

The IA uses a baseline where infrastructure is not installed at the point of construction, but is retrofitted at a later date. It is assumed that chargepoints will be installed in the same volumes over the appraisal period but at a lower rate in the early years, increasing over time in line with the percentage of EVs as a share of total car stock. The Department's approach to the baseline appears to be reasonable and is usefully addressed in the sensitivity analysis (see below).

Explaining changes since the consultation stage IA

Given the magnitude of the changes since the consultation stage IA (see comparison above), the IA would benefit significantly from providing a much more detailed comparison and explanation for the changes. While the new estimates appear to be based upon new and improved information (and the IA does seem to have been improved significantly through consultation – see the 'cost benefit analysis' section of this opinion), the IA would benefit significantly from discussing this in more detail.

Following the comments in the RPC's informal review of the consultation stage IA, the IA now includes monetised costs of higher operating costs associated with earlier installation of chargepoint infrastructure (£78 million). Although overall costs have increased significantly, the IA would benefit from explaining further why the cost estimates for familiarisation and material replacement have been reduced since consultation stage. The IA would also benefit from addressing explicitly the consistency of assumptions with the residential IA, for example in the case of familiarisation, where the time assumptions are higher.

SaMBA

The IA includes a good SaMBA (pages 30-34). The Department uses different data sources to estimate numbers of small and micro businesses that could be affected by the regulations and usefully estimates the proportion of overall costs borne by such businesses (tables 12 and 13). The SaMBA explains that exemption would not be appropriate, mainly because the measure is considered to meet minimum international obligations. The IA discusses a range of mitigations, including available financial support from government and local authorities. The SaMBA would benefit from discussing whether the statement that micro businesses would not be impacted by this policy (paragraph 159) would hold for micro retail businesses.

Rationale and options

As noted by the RPC at consultation stage, the Department has provided a clear and detailed assessment which includes a rationale for intervention supported by well-explained market failure arguments.

Unlike the residential charging infrastructure IA, options for mandating more infrastructure than the minimum international requirement have not been considered. The Department explains that this is because there is less certainty around how widespread requirements for non-residential charging provision will be relative to residential charging. Given the positive NPV of the policy, the IA would benefit from discussing further why it would not be cost effective to go further than the minimum requirements at this time.

The IA briefly refers to alternatives to regulations, such as continued support through grants such as the Workplace Charging Scheme and other investment driving policy which are currently implemented. The IA would benefit from discussing alternatives further and why they would not address the problem satisfactorily.

Although the IA refers to economies of scale, the IA would benefit from explaining further why it is proposed to restrict the measure to new properties only with more than 10 parking spaces, given that the comparison of first fit to retrofit would seem to be similar for all new properties.

Cost-benefit analysis

Evidence and data

The IA appears to be generally based upon a good level of information, which seems to have been improved following consultation. The Department explains that costs were gathered in a three-stage process: literature review; initial interviews with relevant trade bodies; and detailed interviews and/or data gathering from 14 stakeholders. Charging infrastructure cost estimates have been applied to forecast installations derived from public car park data for non-residential sites (2,585 chargepoints and 29,454 units of ducting installed each year).

The Department's estimates were tested during the consultation phase, with the majority of respondents stating they had no comment on the costs. Some

respondents remarked that costs looked ‘lower than expected’ but provided no further evidence. The Department elected, therefore, to keep costs as they were at the consultation stage but states that it will monitor and review as part of the post-implementation review.

The IA would benefit from proportionately discussing follow-up steps the Department took to elicit information from consultees, particularly where respondents remarked that costs looked ‘lower than expected’ and where estimates appear to be based upon particularly limited evidence (such as time and staff assumptions for familiarisation). The IA would also benefit from explaining further the problems in getting more up-to-date data on the number of public carparks and what steps have been taken to explore additional methods, such as perhaps collaborating with Ordnance Survey.

Methodology

The IA provides a good explanation of the 29 year appraisal period, which corresponds to the expected economic life of the installation of cabling and other hardware.

Assumptions, sensitivity analysis and risks/uncertainties

The IA acknowledges there are a number of uncertainties and, following comments in the RPC’s informal review of the consultation stage IA, includes an extensive sensitivity analysis. The IA notes that the most important overarching uncertainties are around the assumption that, without the regulation, at least the same amount of infrastructure will be retrofit in non-residential car parks, albeit at a slower rate. The sensitivity analysis includes three scenarios where the proposal could have a large negative NPV but explains why this is not considered to be likely.

The IA notes that some local authorities require chargepoint installation during construction, but that this is not widespread and varies significantly. The IA would benefit from exploring this in the sensitivity analysis.

The IA includes a brief discussion of the impact of Covid-19 (paragraph 127). The IA would benefit significantly from a more detailed discussion of the possible impacts on Covid, for example in terms of reinforcing trends in new build away from flats and city centres to houses and towns/suburbs.

Presentation

The IA presents some costs (operating and material replacement) as net costs over the baseline but others (installation of charging infrastructure) as a gross cost, with the avoided baseline (retrofit) cost presented as a benefit. The costs and benefits in aggregate terms avoid any issues such as double counting, but the IA would benefit from providing additional clarity and explanation of its approach and presentation.

Wider impacts

The IA discusses potential environmental impacts in the form of emissions savings from increased take-up of electric vehicles (pages 20-21) and provides a good

discussion of groups potentially impacted by the proposal (pages 27-30). There is also a discussion of costs borne by the public sector/local authorities (paragraph 140). There is some mention of innovation but the IA would benefit from discussing this, given the potential impact of technological developments. The IA would also benefit from discussing other potential wider impacts, such as competition.

Following comments in the RPC's informal review of the consultation stage IA, the IA now helpfully includes a discussion of impacts on the electricity network (page 34). The IA would benefit from addressing further some of the other comments in the RPC's informal review, such as the potential impact of charging infrastructure on the number of available car park spaces.

The IA would benefit from discussing further the potential alternative of hydrogen fuel, as has been promoted recently, on potential take-up of electric vehicles. This could include their likely comparative attraction to consumers (e.g. differences in filling-up/charging cost and convenience). The IA would also benefit from discussing environmental impacts of battery and electric vehicle production.

The IA would benefit from discussing the significance of new non-residential building relative to size of the entire non-residential building stock on the extent to which overall policy objectives might be met.

The IA could usefully include discussion on any supply chain issues in the building sector, such as availability of ducting cables and labour, and whether this could impact on the installation of charge point infrastructure.

Monitoring and evaluation plan

The IA includes a detailed monitoring and evaluation plan (pages 34-37). This lists key uncertainties, how the Department will attempt to mitigate them through specific monitoring activity and it will use data gathered for further analysis. The plan usefully sets out key research questions for the evaluation and the data that will be monitored.

Other Comments

The IA helpfully refers to policy interactions and the associated IA on residential buildings (footnote 13). The IA could usefully expand on its reference (paragraph 189, page 36) to proposed regulations requiring charge points to be 'smart' by referring to the IA on this and providing assurance on consistency of treatment, alignment of assumptions etc.[2]

The net benefits of the proposal result from the avoidance of the higher cost of retrofitting EV chargepoint infrastructure in the counterfactual. The need for retrofit is in large part driven by government policy, notably the ending of sales of new petrol and diesel cars from 2030. The RPC looks forward to seeing impact assessments relating to these policies, subject to better regulation framework requirements.

[2] RPC-DfT-5075(1) 'The Electric Vehicles (Smart Charge Points) Regulations 2021', 7 July 2021.

Regulatory Policy Committee

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