

## Improving the consumer experience at public chargepoints

<b>Lead department</b>	Department for Transport
<b>Summary of proposal</b>	Requirements for minimum payment methods, payment roaming, price transparency, reliability and open data at electric vehicle public chargepoints.
<b>Submission type</b>	Impact assessment (IA) – 26 October 2021
<b>Legislation type</b>	Secondary legislation
<b>Implementation date</b>	2022
<b>Policy stage</b>	Final
<b>RPC reference</b>	RPC-DfT-5105(1)
<b>Opinion type</b>	Formal
<b>Date of issue</b>	17 November 2021

## RPC opinion

<b>Rating<sup>1</sup></b>	<b>RPC opinion</b>
<b>Fit for purpose</b>	As originally submitted, the IA was not fit for purpose because the SaMBA needed strengthening. The revised IA includes improvements to the SaMBA and overall analysis, although there are some significant areas for further improvement. The IA provides an EANDCB based upon proportionate evidence and correctly classifies impacts on business.

## Business impact target assessment

	<b>Department assessment</b>	<b>RPC validated</b>
<b>Classification</b>	Qualifying regulatory provision (IN)	Qualifying regulatory provision (IN)
<b>Equivalent annual net direct cost to business (EANDCB)</b>	£109.0 million	£109.0 million (2019 prices, 2020 pv)
<b>Business impact target (BIT) score</b>	£544.0 million	£545.0 million
<b>Business net present value</b>	-£936.0 million	
<b>Overall net present value</b>	-£510.0 million	

<sup>1</sup> 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

<b>Category</b>	<b>Quality</b>	<b>RPC comments</b>
EANDCB	<b>Green</b>	The assessment of impacts on business appears to be based on good evidence and data. The IA's classification and treatment of business impacts is in line with RPC guidance.
Small and micro business assessment (SaMBA)	<b>Green</b>	The SaMBA has been strengthened following the RPC's initial review, in particular through additional analysis of investment viability and the ability of small businesses to pass on higher costs to consumers. The IA considers whether costs might be proportionately higher for SMBs and discusses methods of mitigating such impacts. The SaMBA would be improved by clarifying impacts on the profitability and potential market exit of SMBs.
Rationale and options	<b>Weak</b>	The IA provides a clear and well-justified rationale for intervention, supported by survey data. The IA considers different options across five individual policy proposals. The IA would benefit from discussing further the pursuit of voluntary solutions with businesses. Given that the strongest evidence for the lack of EV adoption appears to be the limited number of charging points, the IA should have addressed the risk that additional costs from improving the quality of charging points might disincentivise investment in new charging points or even market exit for existing providers.
Cost-benefit analysis	<b>Good</b>	The Department appears to have gathered good evidence and data.
Wider impacts	<b>Satisfactory</b>	Costs to government are monetised and the IA includes a useful assessment of impacts on innovation and trade. The IA would benefit from an assessment of impacts on competition, in particular from open data.
Monitoring and evaluation plan	<b>Good</b>	The IA includes a detailed monitoring and evaluation plan. This usefully sets out key research questions and the data that will be collected to address them.

## Response to initial review

As originally submitted, the impact assessment was not fit for purpose because there were a number of areas where the SaMBA needed to be strengthened. These included assessment of the impact of the costs of the proposal on the profitability and viability of small-scale operators, their likelihood of exiting the market and disincentivising provision of new charging points.

In response, the Department has significantly improved the SaMBA, in particular by explicitly discussing investment viability and providing an assessment of the ability of chargepoint operators, including SMBs, to set higher prices and pass costs onto consumers. There are some areas where the SaMBA and IA overall could have been improved further. These are outlined below.

## Summary of proposal

The proposed regulations intend to make electric vehicle (EV) public chargepoints easier to use, addressing problem areas identified through engagement and research. The policy package covers the following requirements:

- *Minimum payment methods*: a minimum payment method (i.e. a payment method that does not require a smartphone, such as contactless) on new chargepoints above 7 kilowatts (kW) and retrofit on 50kW+ chargepoints. (Cost estimated at £285 million over ten years in present value terms).
- *Payment roaming*: to enable consumers to pay to charge their EV through one app or membership card. The preferred option is to take non-regulatory action, then mandate payment roaming from 2024 if no progress is made. (£235 million).
- *Price transparency*: all chargepoints to use pence per kilowatt hour (p/kWh) as the standard metric for a unit of electricity. (£308 million).
- *Reliability*: minimum 99 per cent reliability on 50kW+ chargepoints and provision of a 24/7 helpline on all public chargepoints. The reliability requirement will be extended to chargepoints below 50kW from 2024 if no progress is made. (£285 million).
- *Open data*: chargepoint data, such as location, availability, etc., to be shared openly and a data standard mandated. (£12 million).

Overall, the IA estimates a cost of £1,120 million over ten years in present value terms (2021 prices; 2022 base year for discounting). The main costs are: installation of contactless hardware and operating costs; revenue loss to business from price transparency requirements; roaming agreement costs; and maintenance to meet reliability requirements. Benefits are estimated at £536 million and consist mainly of time savings to consumers from avoided helpline calls/app downloads and cost savings from price transparency. The IA notes that the policy is expected to increase EV uptake and that this would result in emissions savings. This benefit is not monetised but the IA estimates the percentage increase in EV uptake necessary to generate a positive NPV (this is around 2 per cent for minimum payment methods and reliability requirements). The large majority of costs are on businesses, in

particular chargepoint operators. These are treated by the Department as direct for business impact target purposes; there are no direct benefits to business. The IA estimates an EANDCB of £125 million (£109 million in 2019 prices; 2020 base year for discounting).

Regulations on payment, reliability and open data will be enabled through the Autonomous and Electric Vehicles Act (AEVA) 2018; regulations on price transparency through the Prices Act 1974.

## **EANDCB**

### Direct and indirect impacts

The IA treats all of the costs on business as direct. The EANDCB does not include any benefits to business: any pass-through of these costs to consumers and any benefit to EV charging businesses of additional revenue from increased EV uptake are treated as indirect. This treatment is in line with RPC guidance. The IA would benefit from discussing whether some of the benefits to consumers, such as from avoided helpline calls, might also be experienced by business consumers.

The IA effectively treats the cost of any ‘voluntary’ action by business that is taking place only because of the ‘threat’ of mandated regulatory requirements as a direct impact on business. This is in line with RPC guidance.

### Counterfactual/baseline

The IA’s approach to the baseline is satisfactory. It is generally assumed that there will be no improvement by business in the absence of policy intervention. Uncertainty over how the market would develop, e.g. the number of public chargepoint operators, is reflected in a wide range of scenarios and tested in sensitivities. The IA would benefit from some additional sensitivity analysis, in particular on payment roaming where it is acknowledged that some agreements may occur where there is mutual benefit.

## **SaMBA**

The IA’s SaMBA is now fit for purpose. The IA estimates the number of SMBs likely to be impacted by each policy and the number and proportion of devices operated by them. The SaMBA estimates the scale of initial and ongoing costs borne by SMBs (tables 73-78). These estimates draw upon engagement with SMBs during consultation. The SaMBA notes that many ongoing costs are proportionate to the number of chargepoints but that one-off costs, such as setting up roaming agreements, could be proportionately higher for SMBs. The IA usefully discusses possible mitigation measures. This includes a commitment to work with SMBs to develop the technical guidance.

The SaMBA has been strengthened significantly following the RPC’s initial review. The RPC considered that the SaMBA needed to improve its analysis around the impact of the costs of the proposal on the profitability and viability of small-scale operators, their likelihood of exiting the market and disincentivising provision of new

charging points. In response, the SaMBA now explicitly discusses impacts on investment viability, including a tipping point analysis, and provides an assessment of the ability of chargepoint operators, including SMBs, to set higher prices and pass costs onto consumers (paragraphs 82-86). The latter includes an assessment of consumer elasticity of demand and concludes there is significant headroom for SaMBs to pass these costs onto consumers. The IA also notes that many SMBs in EV charging are subsidiaries of large, parent companies. These businesses would not traditionally count as SMBs for better regulation framework purposes.

The IA also more generally now includes discussion on incentives to invest in new chargepoints, including an outline of profitability and current utilisation (paragraphs 29-31).

The SaMBA would have benefitted from further improvement in the following areas:

- Clarifying further the current profitability of CP providers, in particular SMBs. The IA states that these are currently loss-making but the IA would benefit from explaining further what this means and why this is the case. The IA provides a useful comparison of costs against investment required over the next few years, indicating that it would increase the necessary market share for profitability from 5 per cent to around 5.5 per cent (paragraphs 82-83). However, the IA should clarify whether the 5 per cent figure is an internal rate of return-type figure or on an operating profit basis. Given fuel electricity price inelasticity and the current lack of open data, it would seem more likely that CP providers are able to at least break-even on operating costs and the figure refers to when investment costs would be recovered.
- Paragraphs 84-86 usefully address the ability of businesses to pass on costs in the form of higher prices. This assessment would benefit from discussing further the consistency between price inelasticities and the current loss-making of CP providers, and from discussing the impact of open data.
- Discussing further the potential for the proposal or disincentivising chargepoint provision and potential exit from the market (paragraph 87).

## Rationale and options

The IA discusses market failures, in particular positive externalities and information deficiencies, and a range of survey data (e.g. EVA England and AA-Yonder surveys) is used to provide evidence of consumer detriment in existing EV chargepoint arrangements. The RPC's initial review identified some areas for improvement in this area. The revised IA now includes further explanation in the following areas: a holistic description of the Government's policy intentions for growing the number of EVs (paragraphs 4-5); why non-EV drivers are currently not buying EVs (paragraphs 10-12); interactions between policies and supply-side incentives (paragraphs 29-31). The IA notes that literature suggests the EV charging market is expected to become profitable only when EVs make up at least 5 per cent of vehicles on the road, or

about 2 million units. The IA could benefit from some further discussion in places, such as why roaming is not already happening sufficiently.

The IA presents evidence that a significant proportion of motorists are deterred from buying EVs because of a lack of chargepoints. However, the proposal will add costs to the provision of CPs and the IA would have benefitted significantly from addressing further why this would not disincentive the provision of CPs and therefore undermine achievement of the policy objectives.

The IA considers different options across the five policy proposal areas described above and brings these together into two policy packages. The policy packages differ according to whether payment roaming or 99 per cent reliability on chargepoints under 50kW are mandated from 2022 or, potentially, from 2024. The IA refers briefly to alternatives to regulation (paragraph 26, page 17). This states that the Department has worked with industry over the last two years to voluntarily improve the consumer experience but notes that insufficient progress has been made. A policy package allows for the possibility of voluntary improvement in the areas of payment roaming and reliability ahead of a potential introduction/extension of mandatory requirements in 2024. The IA would benefit from providing further details of how Department has worked with industry to pursue voluntary solutions and why these have not been successful.

The preferred options within the packages do not generally have the highest monetised NPV. The IA explains that the option with the highest NPV would not meet the policy objectives and that choosing an option that goes further would present practical considerations, for example, in the case of minimum payment methods, around the feasibility of installing contactless terminals (page 53). This explanation is helpful but would benefit from further discussion, including greater reference to non-monetised factors. On payment roaming and reliability, the IA would benefit from further discussion around the case for not implementing full mandatory requirements now and the prospects for voluntary action by 2024.

## **Cost-benefit analysis**

### Evidence and data

The Department appears to have put in significant resource to gather evidence and data for the IA. This includes holding bilateral meetings with 17 EV charging stakeholders, including 11 chargepoint operators (CPOs) accounting for over half of existing chargepoints, and running a workshop with CPOs, manufacturers, eMobility Service Providers (eMSPs) and Internet of Things (IoT) providers. Stakeholder engagement appears to have yielded useful information, such as unit cost data on roaming agreements.

### Methodology

The IA's approach to emission savings appears to be appropriate and well-balanced. The IA considers that the evidence to establish a direct relationship between the policy package and EV uptake is too limited for monetisation. However, it uses standard government carbon values to estimate the proportionate increase in EV

uptake that would be necessary to generate a positive NPV. The IA then undertakes sense-checks, e.g. against internal consumer choice modelling, to reach a conclusion that this scale of impact can reasonably be achieved.

The IA would benefit from stating more explicitly the assumptions used in some places, for example the percentage roaming fee (from the 5-20 per cent range) used to estimate the costs in table 16.

### Assumptions, sensitivity analysis and risks/uncertainties

The IA usefully sets out its assumptions, data sources and levels of uncertainty/confidence at annex 1. Time savings, for example from simplified payment methods and avoided helpline calls, are supported by survey evidence and are monetised using standard DfT appraisal techniques. The IA acknowledges uncertainties and addresses these through very good sensitivity analysis. The most important sensitivity tests are reported at pages 55-62, with fuller results presented at annex 3. The sensitivity analysis focuses on impacts on the NPV; the analysis could usefully be extended to cover the main drivers of the EANDCB.

The IA also includes a very useful discussion of the risks associated with the proposal, including disincentivising the roll out of 50kW+ chargepoints, distorting the supply of chargepoints around the 7kW and 50kW thresholds and slowing the installation of new chargepoints. On the risk of reducing the viability of investment in low utilisation areas, the IA would benefit from discussing the current profitability of chargepoints in some areas.

The IA discusses a possible loss of advertising revenue resulting from the roaming requirements. The IA would benefit from explaining the basis for the conclusion that the number of networks who operate under this business model is small.

On reliability, the IA would benefit from discussing whether some chargepoints are left 'out of service' because they are loss-making/subject to repeated vandalism, and that, therefore, whether there could be additional costs to business from the minimum reliability requirement.

## **Wider impacts**

The IA monetises costs to government. On open data, this involves setting up and maintaining the data architecture, including a capital cost of £2million to £3million in 2022. The IA would benefit from discussing the basis of these estimates, including whether they take account of optimism bias.

The IA includes a useful innovation test (page 64). This states that the regulations specify minimum requirements but avoid being overly prescriptive about how operators must deliver this. It describes briefly how innovation has been considered for each policy area. The IA discusses separately trade impacts (pages 70-71), noting that the minimum payment methods proposal could have trade impacts because it is a technical specification, although noting that it is based on internationally recognised standards. The wider impacts section would benefit from assessing impacts on competition, including the impact of open data potentially

leading to greater competition and possibly lowering prices, disincentivising investment in new sites. More generally, the IA could bring out more evidence from the CMA's investigation into this area.

## Monitoring and evaluation plan

The IA includes a detailed monitoring and evaluation plan (pages 71-74). This notes a commitment to review progress ahead of a full five-year review, particularly on payment roaming and reliability standards, by the end of 2023. The plan very usefully sets out key research questions and the data that will be collected to address them.

## Other Comments

The IA very helpfully includes a number of footnotes explaining how it has avoided double counting of impacts when bringing the individual proposals together into policy packages. The IA could benefit from briefly covering this in the main text.

### Regulatory Policy Committee

For further information, please contact [regulatoryenquiries@rpc.gov.uk](mailto:regulatoryenquiries@rpc.gov.uk). Follow us on Twitter [@RPC\\_Gov\\_UK](https://twitter.com/RPC_Gov_UK), [LinkedIn](#) or consult our website [www.gov.uk/rpc](http://www.gov.uk/rpc). To keep informed and hear our views on live regulatory issues, subscribe to our [blog](#).