

Subsidy Advice Unit Report on the Rapid Charging Fund Pilot Scheme

Referred by the Office for Zero Emission Vehicles

15 June 2023

Subsidy Advice Unit

Part of the Competition and Markets Authority

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1. Introduction

- 1.1 This report is an evaluation prepared by the Subsidy Advice Unit (SAU), part of the Competition and Markets Authority (CMA), under section 59 of the Subsidy Control Act 2022 (the Act).
- 1.2 The SAU has evaluated the Office of Zero Emission Vehicles' (OZEV) assessment of compliance of the Rapid Charging Fund (RCF) pilot scheme with the requirements of Chapters 1 and 2 of Part 2 of the Act (the Assessment).¹
- 1.3 The evaluation is based on the information provided to the SAU by OZEV in its Assessment and evidence submitted relevant to that Assessment. During the course of its evaluation, the SAU received third party submissions from a trade association and a chargepoint operator (CPO).
- 1.4 This report is provided as non-binding advice to OZEV. The purpose of the SAU's report is not to make a recommendation on whether the scheme should be implemented, or directly assess compliance with the subsidy control requirements. OZEV is ultimately responsible for making the scheme, based on its own assessment, having the benefit of the SAU's evaluation.
- 1.5 The SAU's approach to the evaluation report is commensurate with the circumstances of the subsidy referred.
- 1.6 A summary of our observations is set out at section 2 of this report.

The referred scheme²

- 1.7 The RCF will support new infrastructure to enable the transition to zero emission vehicles. It is one of the ways through which Government is addressing market failures to prepare England's charging network and energy infrastructure ahead of the phase-out of sales of new petrol and diesel cars and vans.
- 1.8 The RCF pilot will fund a portion of the cost of upgrading the electricity grid at motorway service areas (MSAs) where it is not commercially viable to do so. This will enable the private sector to install electric vehicle (EV) chargepoints at MSAs. OZEV states that access to a comprehensive ultra-rapid chargepoint network will enable more consumers to confidently purchase EVs. The RCF pilot is intended to future-proof electricity network capacity required for EV charging at MSAs a

¹ Chapter 1 of Part 2 of the Act requires a public authority to consider the subsidy control principles and, where applicable, the energy and environment principles, before deciding to give a subsidy. The public authority must not give the subsidy unless it is of the view that the subsidy is consistent with those principles. Chapter 2 of Part 2 of the Act prohibits the giving of certain kinds of subsidies and, in relation to certain other categories of subsidy, creates a number of requirements with which public authorities must comply.

² See [Referral for the Rapid Charging Fund Pilot Scheme by the Office of Zero Emission Vehicles](#) for full details.

minimum of 10 years ahead, to approximately 2035, with a stretch target of 2050. This will ensure capacity ahead of demand.

- 1.9 The pilot, which will be launched mid-2023, will test fundamental aspects of the RCF and extract key learnings to inform the design of the full fund which is intended to follow shortly after.³

SAU referral process

- 1.10 On 26 April 2023, OZEV requested a report from the SAU in relation to the proposed RCF pilot scheme.
- 1.11 OZEV explained⁴ that the RCF pilot scheme is a ‘scheme of particular interest’ because it allows for one or more subsidies of particular interest to be given.⁵ In particular, under the RCF pilot, a single beneficiary is likely to receive funding in excess of £10 million.
- 1.12 The SAU notified OZEV on 3 May 2023 that it would prepare and publish our report within 30 working days (ie on or before 15 June 2023).⁶ The SAU published details of the referral on 3 May 2023.⁷

³ References to the scheme in this report should be taken to refer to the RCF pilot that has been referred. Where relevant, the full fund is referred to as the main scheme.

⁴ In the information provided under section 52(2) of the Act.

⁵ Within the meaning of regulation 3 of [The Subsidy Control \(Subsidies and Schemes of Interest or Particular Interest\) Regulations 2022](#) which sets out the conditions under which a subsidy or scheme is considered to be of particular interest.

⁶ Sections 53(1) and 53(2) of the Act.

⁷ [SAU: Referral details](#)

2. Summary of the SAU's observations

- 2.1 The Assessment is drafted in line with the four-step process described in the Statutory Guidance for the United Kingdom Subsidy Control Regime (the [Statutory Guidance](#)) and as reflected in the SAU's Guidance on the operation of the subsidy control functions of the Subsidy Advice Unit (the [SAU Guidance](#)).
- 2.2 We found that some aspects of the Assessment were done well. In particular:
- (a) Principle A: the relevant policy objectives were clearly set out and explained, and the market failure assessment was generally well evidenced (although it could have used a broader range of evidence);
 - (b) Principle E: the consideration of alternative options was commensurate and well-structured. It showed clearly the wide range of alternatives considered and how those alternatives had been narrowed across multiple stages into a short list and final option. The criteria at each stage were clear and reasonable, and the level of analysis increased as the options narrowed.
- 2.3 We also identified some aspects of the Assessment which could be improved, in particular by:
- (a) Principle B: A more detailed assessment and consideration of subsidy design options relating to proportionality and the choice of beneficiaries;
 - (b) Principle C: More evidence and analysis of the economic behaviour of MSA operators, CPOs, and others absent the scheme, particularly taking into account the forecast change to EVs and investment plans;
 - (c) Principle F: In the assessment of competition, more detail and consideration of (i) the potential misalignment of beneficiaries' incentives with the policy objective, (ii) the potential effects on investment and competition between beneficiaries, between funded and non-funded sites and between MSAs and CPOs, and (iii) potential safeguards against risks of distortion; and
 - (d) Principle G: A clearer consideration of negative effects on investment and on geographical and distributional impacts.
- 2.4 The Assessment refers to the CMA's market study into EV charging.⁸ The market study included notably the issue of EV charging at MSAs, and highlighted the importance of the RCF in ensuring sufficient charging infrastructure and promoting

⁸ CMA, [Electric Vehicle Charging market study](#)

competition for EV charging at MSAs. The market study made some recommendations in relation to the RCF.

- 2.5 The Assessment generally makes appropriate reference to the market study. However, we note that, where a relevant regulator has made recommendations that could impact the design of a subsidy or scheme, we would expect public authorities to take them into account (along with other relevant evidence). Should the public authority ultimately decide not to implement those recommendations, we would expect assessments to provide detailed reasoning for that decision, backed up by sufficient evidence (acknowledging that the public authority is responsible for the ultimate design of the scheme, considering all relevant factors). As such, the Assessment could be improved by setting out in more detail OZEV's rationale for its decision on the relevant recommendations. This appears particularly important given their potential relevance to the design of the main scheme.
- 2.6 We received two third party submissions, one from a trade association and the second from a CPO. As we set out in the SAU Guidance, the SAU may take account of third party submissions where relevant.⁹ It is not the SAU's role to assess submissions made by third parties but rather to consider whether they have raised relevant issues that, if addressed by a public authority, could impact its assessment.
- 2.7 In this case, in addition to raising some matters that the Assessment already considers, the submissions:
- (a) raised issues that the Assessment could usefully consider, such as the impact of current alternative technologies and future technological development;
 - (b) suggested that the Assessment could be improved with a fuller consideration of current and future investment, in particular by CPOs; and
 - (c) noted concerns about the impact on competition that may arise from the scheme.
- 2.8 Finally, we note two general points:
- (a) the Assessment relies in some places on future CMA action as a mitigation or protection against certain impacts of the scheme. While the CMA will consider acting to address anti-competitive issues that arise in markets, assumed action should not be relied on as a mitigation for any subsidy or scheme distortions. Rather, public

⁹ We do not generally publish third party submissions although as set in our guidance will share them in their entirety with the public authority. For further information see paragraphs 3.23 – 3.24 of the [SAU Guidance](#).

authorities should actively seek to address and minimise any potential anti-competitive effects or distortions through the subsidy or scheme design without a regulator's intervention being needed; and

- (b) the Assessment refers in places to the Outline Business Case. We consider that where an Outline Business Case (or equivalent) is prepared in relation to a subsidy or scheme, the document should be provided as part of the evidence base for an assessment.

2.9 We note that OZEV will be carrying out a further assessment of compliance for the main RCF scheme. While our comments in this report relate specifically to its assessment of compliance for the pilot, we consider that many of them are likely to be relevant for this future assessment.

2.10 Our report is advisory only and does not directly assess whether the RCF pilot scheme complies with the subsidy control requirements, nor is its purpose to make a recommendation on whether the scheme should continue to be implemented.

3. The SAU's Evaluation

3.1 This section sets out our evaluation of the Assessment, including the energy and environment principles, following the four-step framework put forward in the [Statutory Guidance](#) and reflected in the [SAU Guidance](#) used by OZEV.

Step 1: Identifying the policy objective, ensuring it addresses a market failure or equity concern, and determining whether a subsidy is the right tool to use

3.2 The first step involves an evaluation of the Assessment against:

- (a) Principle A: Subsidies should pursue a specific policy objective in order to (a) remedy an identified market failure or (b) address an equity rationale (such as local or regional disadvantage, social difficulties or distributional concerns); and
- (b) Principle E: Subsidies should be an appropriate policy instrument for achieving their specific policy objective and that objective cannot be achieved through other, less distortive, means.¹⁰

Policy objectives

3.3 The Assessment sets out two policy objectives for the main RCF scheme:

- (a) by 2023, to enable the market to provide charging infrastructure on motorways to support the Government's vision for the rapid chargepoint network and the transition to a 100% electric car and van fleet. This will be achieved by offering MSA operators funds to future-proof their grid capacity to 2035 or 2050; and
- (b) to address range anxiety¹¹ by providing grant funding that will enable MSAs to future-proof their grid capacity at their sites, leading to a greater provision of high powered chargepoints.¹² This will increase consumer confidence so that, by 2030, the lack of *en route* charging infrastructure will no longer be a key barrier to purchasing and using an EV for long distance journeys.

¹⁰ Further information about the Principles A and E can be found in the [Statutory Guidance](#) (paragraphs 3.18 to 3.42) and the [SAU Guidance](#) (paragraphs 4.7 to 4.11).

¹¹ Range anxiety is the fear that an EV has insufficient energy storage to cover the required road distance needed to reach the intended destination. One way to address range anxiety is to provide assurance that EV drivers can access chargepoints throughout their journey.

¹² The policy intends to address the provision of ultra-rapid chargepoints with a rated charging capacity of at least 150kW.

- 3.4 The RCF Pilot scheme has three additional objectives:
- (a) to generate an improved understanding of the likely barriers to the delivery of the RCF's two core objectives (as set out in paragraph 3.3 above);
 - (b) to identify opportunities to address these barriers through the design of the fund and its delivery mechanisms; and
 - (c) to accelerate the delivery of future-proofed connections at MSAs where connection costs are a barrier to meeting EV charging demands.
- 3.5 Our view is that the policy objectives are focused, relevant and have been clearly set out and explained. OZEV has used up-to-date evidence to support its conclusions and has ensured that the objectives (and the identified market failures set out below) are consistent with the relevant sections of the Government's EV Infrastructure strategy¹³ and the CMA's EV Charging market study.¹⁴

Market failure

- 3.6 The Statutory Guidance sets out that market failure occurs where market forces alone do not produce an efficient outcome. The most common cases of market failure which are relevant to subsidy control occur when at least one of the following features is present: the existence of externalities; the involvement of public goods; or imperfect or asymmetric information.¹⁵
- 3.7 The Assessment clearly sets out two barriers to competition and investment:
- (a) high upfront costs incurred when upgrading connections to the electricity network; and
 - (b) imperfect competition: the ongoing existence of long-term exclusivity arrangements between MSA operators and CPOs increases barriers to entry at many MSAs and restricts competition.
- 3.8 The Assessment further sets out three market failures to justify intervention:
- (a) positive externalities: the market does not fully consider the social and environmental benefits from greater *en route* infrastructure provision;

¹³ [UK electric vehicle infrastructure strategy](#)

¹⁴ [CMA, Electric Vehicle Charging market study](#)

¹⁵ [Statutory Guidance](#), paragraphs 3.21 to 3.32.

- (b) imperfect information: driven by uncertainty around how demand for charging will grow over time and what will be required in the future; and
- (c) coordination issues (which the Assessment refers to as the ‘chicken and egg’ problem): demand for EVs and charging infrastructure are interrelated, as drivers wait for improved charging infrastructure before purchasing an EV, while MSA operators, CPOs and others are waiting for higher EV purchases before investing in more infrastructure.

3.9 We consider that the Assessment sets out and explains reasonably well a range of relevant barriers and market failures preventing the upgrading of grid capacity to meet future demand, providing detail around each concept.

3.10 However, the Assessment could be improved by:

- (a) focusing on the market failure that the scheme is aiming to address (which the Assessment indicates is the coordination issue), following this with the secondary market failures and market barriers; and
- (b) using a wider range of evidence to provide confidence in the conclusions drawn, including from more MSA operators (for example, in relation to high upfront costs the evidence cited refers to investment decisions made by one MSA operator only) and, as noted by third parties, from CPOs given their current role in the market (such as impact of existing and planned investment on the market failures identified, as well as the impact of other changes in the market such as recent changes to Ofgem’s Grid Code).

Consideration of alternative policy options and why the RCF pilot scheme is the most appropriate and least distortive instrument

3.11 To comply with Principle E, public authorities should consider why the decision to give a subsidy is the most appropriate instrument for addressing the identified policy objective, and why other means are not appropriate for achieving the identified policy objective.¹⁶

3.12 The Assessment takes a structured approach to the consideration of alternatives. It starts with a long-list of 15 options, reducing that to six key options and then a final shortlist of two. At each stage, the options are considered against certain criteria set out clearly in the Assessment (including ‘critical success factors’ in line with Green Book Appraisal Guidance), to increasing degrees of detail as the options are narrowed down.

¹⁶ [Statutory Guidance](#), paragraphs 3.40 to 3.41.

- 3.13 For the initial 15 options, the Assessment simply sets out the score against the relevant criteria (with brief reasoning). More detail on the appropriateness or otherwise is then provided for the key options identified, with the final shortlist (grant funding and government-owned leased connections) subjected to a detailed review by an external consultant (which itself considers alternative approaches to implementing the two preferred options).¹⁷
- 3.14 We found that the overall approach to the consideration of alternatives was commensurate, well-structured and allowed for a comprehensive deliberation of various options to address the policy objective and identified market failures. We consider that the options identified were clearly related to the objective and covered a range of plausible alternatives, suggesting that OZEV had thought appropriately about approaches other than a subsidy and about alternative subsidy designs.¹⁸
- 3.15 The Assessment also clearly sets out the criteria against which each option was considered and the reasoning for the eventual scoring. The criteria covered areas against which we would expect options to be considered.¹⁹
- 3.16 While much of the reasoning and assumptions appear reasonable, in some cases we found that statements and conclusions could be supported by clearer evidence (in particular, to support the conclusion that the rate of return on investment is too low to support fully commercial investment, and the degree to which MSA operators can take on more debt).²⁰
- 3.17 The Assessment and supporting evidence consider approaches that involve either MSA operators or CPOs, and the Deloitte report provides some detail as to why MSAs might be preferred for the shortlisted options (such as issues around the difficulties of transferring ownership between CPOs compared to where the MSA operator owns the connection). However, the Assessment could be improved by a clearer discussion on why MSA operators were chosen over CPOs (a point raised by the third party trade association).
- 3.18 We also found that some of the conclusions could be set out more clearly. In particular:

¹⁷ Deloitte, Rapid Charging Fund: Delivery Model Consultancy Report, 28 May 2021

¹⁸ Options considered ranged from doing nothing, to funding chargepoints through increasing the price of electricity sold through those chargepoints, to regulatory asset base funding and nationalisation of the strategic road network.

¹⁹ Such as the extent to which the option addressed the market failure, implications for subsidy control and competition, value for money, affordability, risk and deliverability.

²⁰ There is reference to feedback from stakeholder engagement regarding this – and that the annex provided by OZEV detailing this engagement is helpful – but the Assessment could be improved with more detail on that feedback to support the overall conclusions.

- (a) reconciling claims that MSA operators will not take on more debt under one option, with claims that access to finance for CPOs is not seen as an issue under another option;
- (b) noting that regulation to mandate chargepoint provision is required for the soft-loan option to be feasible despite such regulation being introduced; and
- (c) clarifying the interplay between such regulation not being an appropriate approach but nonetheless being introduced given the existence of the RCF scheme.

3.19 Finally, we note the following points raised by the third party CPO in its submission that are not covered by the Assessment for Principle E but which could, if included, improve it:

- (a) considering the extent to which alternative technologies could lead to different viable options to address the identified market failure (the CPO notes that it has successfully used alternative technologies to increase charging capacity without needing to upgrade the grid, and that National Highways is rolling out battery systems to support existing grid connections at some MSAs²¹); and
- (b) considering the extent to which material and technological improvements over time may affect required grid capacity, which may in turn affect the potential viable options.

Step 2: Ensuring that the subsidy is designed to create the right incentives for the beneficiary and bring about a change

3.20 The second step involves an evaluation of the Assessment against:

- (a) Principle C: Subsidies should be designed to bring about a change of economic behaviour of the beneficiary. That change, in relation to a subsidy, should be conducive to achieving its specific policy objective, and something that would not happen without the subsidy; and
- (b) Principle D: Subsidies should not normally compensate for the costs the beneficiary would have funded in the absence of any subsidy.²²

²¹ [New charging systems to help electric vehicle drivers on our motorways - National Highways](#).

²² Further information about the Principles C and D can be found in the [Statutory Guidance](#) (paragraphs 3.43 to 3.57) and the [SAU Guidance](#) (paragraphs 4.12 to 4.14).

Counterfactual assessment

- 3.21 In assessing the counterfactual, the Statutory Guidance explains that public authorities should consider what would happen in the absence of the subsidy, the ‘do nothing’ scenario. This is then the baseline against which public authorities would assess change.²³ Further, the assessment should establish what is the most likely future scenario.
- 3.22 The Assessment sets out a high-level counterfactual which incorporates three underlying assumptions about what would happen without the scheme:
- (a) EV charging demand would increase,²⁴ but with ‘slower uptake’ compared with what is forecast to happen with the subsidy;²⁵
 - (b) most MSA operators would only invest in grid capacity in multiple, small-scale incremental stages; and
 - (c) there would be no other government intervention in relation to grid capacity investment.
- 3.23 We find that the Assessment could be improved by describing in more detail, with additional evidence and analysis, how the baseline for measuring change was established and what it would entail.²⁶ This could include the use of sensitivity analysis and modelling to ascertain how the counterfactual would change if assumptions and estimates were altered. Where there are ranges of possible outcomes, the Assessment could set these out and explain how the most likely counterfactual was chosen.

MSA operators

- 3.24 The Assessment assumes, largely based on engagement with two MSA operators, that, without the scheme, most MSA operators would only invest in grid capacity in multiple, small-scale incremental stages. In our view, the selection of the appropriate counterfactual could be strengthened by:
- (a) gathering evidence from a greater number of MSA operators;
 - (b) explaining in more detail how the conclusion on MSA operators’ investment decisions was reached and, with sensitivity analysis, what change in circumstances would alter this conclusion;

²³ [Statutory Guidance](#), paragraphs 3.46 to 3.47.

²⁴ The Assessment states that, currently, 1.7% of cars and 0.7% of vans on the road are fully electric.

²⁵ The Assessment refers to a forecast where the car and van fleet is 50% electric by 2035 and 100% electric by 2050.

²⁶ See [Statutory Guidance](#), paragraphs 3.46 to 3.48.

- (c) taking into account potential behaviour responses to the possibility of receiving a subsidy. We note, for example, that the Deloitte report states that some market participants felt that proposed ultra-rapid chargepoint targets for MSA sites should be funded by the RCF and some were delaying the 2023 investment to see the RCF outcome.²⁷ Therefore, recent behaviour of MSA operators under the 'status quo' may not represent how they would behave without the scheme; and
- (d) describing how, without the scheme, the forecast transition to EVs²⁸ is likely to affect MSA operators, particularly taking into account how impacts on the forecourt and retail revenues which they currently generate.²⁹

CPOs

- 3.25 The Assessment states that, under the status quo, CPOs often pay for grid upgrades at sites and have practical experience of delivering and installing chargepoints.
- 3.26 Even if CPOs are not potential beneficiaries, we consider that the Assessment could be strengthened by providing more detailed information on what CPOs would do under the counterfactual, particularly given their role under the current market structure (this was also noted in a submission by a third party CPO). In this context we note that third party submissions refer to planned investment in EV charging infrastructure and grid connections. The Assessment would be improved by considering why the recent investment trends would not be sufficient to meet the policy objective.

Distribution Network Operators (DNOs)

- 3.27 The Assessment refers to the role of DNOs in upgrading and managing the grid capacity.
- 3.28 We consider that the Assessment could be strengthened by setting out what DNOs would do without the scheme, including whether they would bear some or all of the costs of upgrading the grid capacity and seek to recover these costs through higher network charges or alternative funding models.

²⁷ Delivery Model Consultancy Report, Deloitte, 28 May 2021.

²⁸ The Assessment states that 'roughly 50% of the car and van fleet is forecasted to be electric' by 2035 and 'the fleet is expected to be 100% electrified' by 2050.

²⁹ The Statutory Guidance states that, 'it is reasonable to assume that recipients and competitors will continue making investments in improvements, innovations, or new products.' See [Statutory Guidance](#), paragraph 3.57.

Other developments

- 3.29 Finally, we consider that the counterfactual assessment could also be strengthened by considering:
- (a) how the counterfactual might change as a result of alternative technologies and further technological developments;³⁰ and
 - (b) the potential impact of legislation and regulations on obligations to install chargepoints under the counterfactual, such as the Automated and Electric Vehicles Act 2018.

Changes in economic behaviour of the beneficiary

- 3.30 The Assessment describes at a high-level two intended changes in the economic behaviour of MSAs which would otherwise not be commercially viable due to the identified market failures:
- (a) the investment in, and installation of, additional electricity grid capacity by around 2026 to at least the level of supply which is forecast to be needed by 2035; and
 - (b) the investment in, and installation of, additional chargepoints ahead of demand, once certain usage criteria is met.
- 3.31 We noted at paragraph 3.23 that the Assessment could be strengthened by describing in more detail, with evidence and analysis, how the baseline for measuring change was established. Doing so would also help demonstrate more clearly the likely changes in economic behaviour.³¹
- 3.32 With regard to the installation of additional chargepoints, the Assessment states that MSAs will be required to install further chargepoints once “use of [existing] chargers on the site exceeds 25% every 24 hours over a rolling 3-month period” until 2035. In our view, the Assessment could be strengthened by providing the evidence and analysis used in forming the judgement that this threshold will result in the intended change in the beneficiary’s economic behaviour against the counterfactual, and thus support the specific policy objective being pursued.

Additionality assessment

- 3.33 According to the Statutory Guidance, ‘additionality’ means that subsidies should not be used to finance a project or activity that the beneficiary would have

³⁰ The CPO submitted that it provided OZEV in December 2022 with a report produced by Cornwall Insight which analyses how battery storage and solar deployment at MSAs could reduce the upfront and overall costs of network reinforcement.

³¹ In particular, as noted at paragraphs 3.24 and 3.26, and taking into account third party submissions, the Assessment could be improved by setting out more clearly what MSAs and CPOs would most likely do absent the scheme.

undertaken in a similar form, manner, and timeframe without the subsidy.³² For schemes, public authorities should also, where possible and reasonable, ensure the scheme's design can identify in advance and exclude those beneficiaries for which it can be reasonably determined would likely proceed without subsidy.³³

3.34 The Assessment sets out that the size of the subsidy to be awarded under the scheme is based on the 'funding gap' calculated using a net present value³⁴ (NPV) calculation, discounted using the beneficiary's investment hurdle rate:³⁵

(a) the NPV of total grid connection costs; less

(b) the NPV of forecast revenues, operating, maintenance and capital costs to 2050.

3.35 The Assessment sets out steps that applicants will have to follow to support the commercial reasonableness of the key assumptions forming the basis of the funding gap calculation. We find these steps to be helpful in addressing the 'additionality' requirement.

3.36 We consider though that the Assessment could be strengthened in relation to the 'additionality' requirement by explaining how conclusions have been reached in relation to the hurdle rate and to cost modelling.

Hurdle rate

3.37 The Assessment states that the hurdle rate reflects the level of risk being taken by applicants on the private investment and "reasonable levels of investor risk premiums over and above MSA's baseline cost of capital". Further, with regard to the level of risk involved, the Assessment anticipates hurdle rates comparable to other similar emerging investments with a similar risk profile in line broadly with returns sought by private equity and infrastructure equity investment funds.

3.38 The third party CPO submitted that OZEV has calculated the hurdle rate by considering the income of one entity, the MSA operator, and the costs of another, the CPO. It argues that a hurdle rate for investment cannot be determined by looking at two different commercial entities.

³² [Statutory Guidance](#), paragraphs 3.49 to 3.53.

³³ [Statutory Guidance](#), paragraph 3.55.

³⁴ Net present value is used to calculate the current value of a future stream of payments from an investment.

³⁵ A 'hurdle rate' is the minimum acceptable rate of return on a project or investment that investors are expecting to receive.

3.39 We consider that the Assessment could provide further evidence and analysis on whether (and, if so, to what extent):

- (a) MSA operators will need the scheme to maintain their market shares based on the forecast transition from petrol/diesel vehicles to EVs;³⁶ and, if so
- (b) the investments in grid capacity and chargepoints that would be undertaken regardless of the financial assistance (as discussed at paragraph 3.24); and, if so
- (c) a discount rate in excess of a beneficiary's weighted average cost of capital will incentivise the change in economic behaviour without overcompensating the beneficiary.

Cost modelling

3.40 The Assessment describes how the calculation of the funding gap is based on demand forecasts. Further, it states that these forecasts assume a trajectory of EV uptake which may be considered 'ambitious' as they reflect what is considered necessary to meet Net Zero targets, rather than commercial or market forecasts, which are likely to be more conservative.

3.41 We also note comments by the third party CPO that it is unclear how MSA operators could realistically predict costs and incomes without input from CPOs, as this would involve predicting commercial arrangements with third parties which the CPO argues will be very difficult to do so far in advance. The CPO argued that the assumptions made regarding the percentage of EVs which require charging are too high.

3.42 We consider that the Assessment could be improved by addressing the reliability of long-term forecasts with details on any cost modelling carried out.³⁷ This could include cross-checking assumptions against other sources of evidence and ensuring that any inconsistencies between multiple pieces of evidence are clarified. Further, a sensitivity analysis of key assumptions could be provided, including ranges of possible outcomes.

3.43 The scheme is designed so that beneficiaries upgrade their grid capacity and chargepoints to meet the forecast demand in 2035, although the funding gap is

³⁶ The Statutory Guidance states that assessments should consider whether the subsidy would be needed by the beneficiary to maintain their market share or meet a legal or contractual obligation now or in the future. If the answer is 'yes', the Statutory Guidance suggests that it is likely that the project or activity would be undertaken regardless of the subsidy. See [Statutory Guidance](#), paragraph 3.57.

³⁷ The Statutory Guidance states that, where data is available, and it is commensurate to do so, public authorities should consider using cost modelling to support their assessment of the 'additionality' requirement. See [Statutory Guidance](#), paragraph 3.57.

calculated based on the beneficiaries' future net income through to 2050. The Assessment could be improved by explaining how this time horizon was chosen.

Step 3: Considering the distortive impacts that the subsidy may have and keeping them as low as possible

3.44 The third step involves an evaluation of the Assessment against:

- (a) Principle B: Subsidies should be proportionate to their specific policy objective and limited to what is necessary to achieve it; and
- (b) Principle F: Subsidies should be designed to achieve their specific policy objective while minimising any negative effects on competition or investment within the United Kingdom.³⁸

Proportionality

3.45 The Assessment includes a significant level of detail on the characteristics of the scheme, in line with the Statutory Guidance.³⁹ In particular, it explains how the total scheme funding amount was decided, how individual funding amounts are decided and awarded under the scheme, the beneficiary selection, the site selection and funding bid process, and the performance criteria set out under the scheme. However, we consider that the Assessment does not always fully explain how the design elements make the scheme proportionate to the policy objective, or limited to the minimum necessary to achieve the desired outcome.

3.46 Some design elements are explained in detail. In particular, OZEV explains how the scheme funding is ringfenced, requiring MSAs to submit detailed financial models of their intended cost spend, alongside their funding gap calculations. However, whether this is both proportionate and the minimum necessary depends on the calculation of the funding gap being robust. As explained in Step 2, we consider that the robustness of this calculation and the counterfactual, present some shortcomings.

3.47 The Assessment provides some detail about the planned monitoring and evaluation of the scheme. It explains how the delivery body, National Highways, will monitor the progression and delivery of grid connections, as well as ensuring that RCF contracts progress against agreed milestones, scope and costs. A clawback mechanism is in place, as well as enforceable contractual obligations to help ensure that the intervention is proportionate and limited to the minimum necessary to achieve the policy objective.

³⁸ Further information about the Principles B and F can be found in the [Statutory Guidance](#) (paragraphs 3.58 to 3.93) and the [SAU Guidance](#) (paragraphs 4.15 to 4.19).

³⁹ Paragraphs 16.6 - 16.28

- 3.48 As noted in paragraph 3.17, the Deloitte report provides some detail on why MSAs were selected as the beneficiaries of the RCF, rather than CPOs or DNOs. However, we consider that the Assessment could be strengthened by explaining why choosing MSA operators as the beneficiary (as opposed to a wider breadth of beneficiaries) was proportionate to achieve the policy objective given this will lead to greater distortive impacts. We find the Assessment could also benefit from exploring whether making funding available to other market participants (as well as MSA operators) could result in a lower overall cost of achieving the policy objective.
- 3.49 The trade association's submission suggests that the size of the scheme may be large compared to the number of chargepoints that are expected to be installed, and questions whether the intervention is proportionate. The submissions from both the trade association and third party CPO suggest that there is a large amount of planned private investment currently waiting for grid connections to be approved. Although the Assessment provides details on the size of the scheme and what the intended policy outcomes are, we consider it could be strengthened by putting this into context relative to the size of the overall market, and recent and planned private investment.

Design of subsidy to minimise negative effects on competition and investment

- 3.50 The Assessment recognises and identifies a number of competition distortions that may arise as a result of the scheme. These are:
- (a) MSA operators as applicants. There are potential implications for other market players, notably CPOs. Currently CPOs primarily fund and/or secure the right to control existing grid connections at MSAs. Under the RCF, MSA operators will fund and/or secure the right to control these grid connections.
 - (b) MSA operators as CPOs. There are potential impacts on CPOs of MSA operators' ability to act as one of the 2 CPOs. There is a risk that if MSA operators want to deliver chargepoints themselves, they may not offer fair terms for access to the RCF funded grid connections to competing CPOs.
 - (c) competitors' non-MSA sites. There are potential impacts of restricting funding eligibility to MSA sites only on other alternative charging sites close to motorway junctions, which could compete with MSAs to offer charging.

- 3.51 The Assessment sets out the following scheme design elements which intend to limit the competition distortions identified, and/or increase competition in the market:
- (a) ending legacy exclusivity arrangements⁴⁰ between CPOs and MSA operators by November 2026 will offer opportunities for more competition at MSAs;
 - (b) selecting MSA operators as applicants instead of CPOs will shift the control of grid connections, removing any leverage that incumbent CPOs may have over MSA operators, removing barriers to market entry and encouraging competition between CPOs at MSAs;
 - (c) requiring at least two open network CPOs at RCF pilot funded sites for 10 years whose chargers must be positioned in the main carpark should increase competition between CPOs at MSAs (in line with CMA recommendations from the EV Charging market study);⁴¹
 - (d) requiring all RCF funded chargepoints to be open networks⁴² should ensure proper competition at RCF pilot sites from which all consumers can benefit (in line with CMA recommendations from the EV Charging market study); and
 - (e) not requiring MSA operators to apply for RCF funding, with CPOs continuing to continue invest on a commercial basis as they do under their current business model and market structure.

Assessment of effects on competition

Competition distortions created by the subsidy

- 3.52 The Assessment defines the relevant market in some depth, identifying the main current and potential competitors who could be impacted by the scheme. However, while it identifies non-MSA sites in close proximity to eligible MSAs as a place for potential distortion, it does not provide any explanation as to what such distortions might look like or what the impact might be.
- 3.53 The Assessment also does not consider potential distortions to competition for MSA sites not receiving funding under the RCF pilot, nor the possibility that MSA operators' incentives may not align with the policy objective leading to cherry-picking sites for funding in order to gain the most advantageous outcome for

⁴⁰ In particular, the long-term agreements in place between Gridserve and 3 MSA operators in the UK. Under these arrangements, only Gridserve could install, maintain and operate EV charging equipment at these MSA operators' sites. The MSAs also agreed not to appoint any other CPOs at their main retail sites.

⁴¹ CMA, [Electric Vehicle Charging market study](#)

⁴² That is, compatible with all EV brands.

themselves. Depending on the design of the main scheme, some of these distortions may be mitigated.⁴³

- 3.54 Given the size of the scheme and the potential for distortions to competition, we consider that the Assessment should explore or explain further what these distortions might look like in practice, and what the impacts on competition might be. The third party submissions raise similar concerns.
- 3.55 First, while the Assessment details potential distortions arising from the scheme being granted only to MSA operators, we consider that it needs to explain more clearly how conferring property rights over the grid connections to recipient MSAs could change the incentives of market participants compared to the counterfactual. As a result, OZEV has not been able to identify or explain what the potential impacts of this change might be, or the significance of those impacts.
- 3.56 The Assessment could be strengthened by an in-depth consideration of whether the design of the scheme ensures that the incentives of all market participants are aligned with the policy objective. Given the size and risks of distortion, we would expect a more detailed consideration of possible scheme design choices that could mitigate these risks and better align incentives with the policy objective. In particular, the Assessment could explore risks related to MSA operators' potential incentive to dampen on-site competition (ie to encourage weaker competition between CPOs so that the MSA operators get a share of a higher profit), explaining the impact and significance of this in more detail. We would expect a consideration of design choices which could minimise these risks.⁴⁴
- 3.57 Second, the Assessment recognises that MSA operators could act as both grid connection owners and CPOs, which could create a conflict of interest for MSA operators who may have incentives to offer less favourable terms and conditions to competing CPOs (for example, third party submissions point to the potential for MSAs to impose unfavourable contract terms on CPOs, such as the location and number of chargepoints granted, or the rental cost as well as other factors).
- 3.58 However, the Assessment could more clearly explain how this could lead to further misalignment between MSA operators' incentives and the policy objectives, along with the likelihood, impact and significance of such distortions. The Assessment should also explore ways in which the scheme could be designed to prevent vertically integrated MSA operators from disadvantaging current CPOs or potential CPO entrants on their sites and to create incentives for all MSAs to ensure effective on-site competition between CPOs.

⁴³ In particular, some of the latter distortions may not be present for the main scheme, if funding is available to all MSA sites.

⁴⁴ For instance, an incentive-compatible rent and fee structure between MSA operators and CPOs – third party submissions raised concerns about the potential for rent inflation.

3.59 Overall, although the Assessment identifies the main competition distortions and where they may occur, it should explain in more detail what OZEV expects the impacts of these distortions to be, their significance and likelihood of occurring. In addition, the Assessment needs more consideration of how these distortions could be minimised and how the scheme could be designed to align the incentives of all market participants with the policy objective. Given the size of the scheme and its potential to be distortive due to the change in the ownership of grid connections, the Assessment should have gone further to evaluate these impacts.

Scheme design to mitigate competition distortions

3.60 The Assessment details many design elements of the scheme, in line with the Statutory Guidance,⁴⁵ and how the scheme will in practice be delivered. Many of these elements could potentially limit competition distortions, however we note that they are not considered from this angle. As such, we consider that the Assessment could be strengthened by exploring in greater detail how the following design features could limit competition distortions:

- (a) the use of a competitive tender process for MSAs bidding for scheme funding;
- (b) a pre-determined criteria against which to bid;
- (c) ringfencing the funding to be used only to fund the grid connection, funding only the non-commercially viable part of the investment;
- (d) the requirement for detailed financial models to be submitted to support the funding gap calculation; and
- (e) the creation and use of a demand framework and a requirement to provide evidence and reasoning where that is deviated from.

3.61 The Assessment provides details of multiple scheme criteria intended to mitigate the potential competition distortions. While the Assessment explains at a high level how some of these criteria are intended to minimise competition distortions, we consider it could be strengthened by providing more detail. In particular, the Assessment could more clearly explain how these criteria are specifically targeted at the distortions identified, particularly those which might result from the vertical integration of MSAs (resulting in a change of incentives regarding downstream competition with CPOs) and limiting the potential to abuse market power.

3.62 The scheme implements several recommendations from the CMA's EV Charging market study. Where such relevant recommendations from a regulator exist, we would expect public authorities to take them into account when designing their

⁴⁵ [Statutory Guidance](#), paragraphs 16.6 to 16.28

subsidy or scheme (along with other relevant evidence). Should the public authority ultimately decide not to implement those recommendations, we would expect assessments to provide detailed reasoning for that decision, backed up by sufficient evidence.

- 3.63 In this case, we consider that the Assessment should explain in significantly more detail why OZEV decided not to adopt certain measures that would help minimise distortions.
- 3.64 First, the Assessment sets out that the scheme will not require (but will recommend) that open tenders should be used for granting access to the network capacity provided by the RCF. The CMA recommended open tenders be a condition of RCF funding in the EV Charging market study. The Assessment provides a limited explanation that this would be too complex to implement in instances where MSA operators wishing to operate as CPOs at their own site would have to tender for their own contracts, and that this could cause delays conflicting with the need to implement the pilot as quickly as possible (also a CMA recommendation). However, no further explanation or evidence has been provided to support this.
- 3.65 Second, the Assessment mentions that OZEV considered requiring MSA operators to offer 'equal' or 'fair' terms when awarding contracts, to ensure that CPOs are not disadvantaged as a competitor to the MSA operators. However, the Assessment argues that in practice it would be very difficult to define and enforce fairness or equality at a site without significant risk of unintended consequences (due to CPO incumbency and the dynamic nature of competition) and so did not require this (although will impose certain terms such as requiring all chargepoints to be placed in the main car park, regardless of CPO ownership).
- 3.66 We consider that the Assessment should have more clearly explained and evidenced why neither option (open tender or equal and fair terms) were included as a requirement of the scheme. This appears particularly important given their potential relevance to the design of the main scheme, and, for the open tender option, the existence of publicly available recommendations by a relevant regulator, which OZEV has seen and considered. The Assessment should also have explained the likely impact on competition distortions resulting from excluding these conditions from the scheme design.
- 3.67 Considering the potential distortions that the scheme could create, we also consider that the Assessment should have gone further to explore other potential ways the scheme could be designed to minimise competition distortions.
- 3.68 Finally, the Assessment suggests that the CMA could intervene if competition is not working effectively at MSA sites. We consider that potential interventions by the CMA should not be relied on as a mitigation for any competition distortions arising

from a subsidy. Rather, public authorities should actively seek to address and minimise any potential anti-competitive effects or distortions through the subsidy or scheme design itself, and these should be set out clearly in their assessment, rather than relying on the intervention of a regulator should issues arise.

- 3.69 Overall, the Assessment would be improved by explaining in detail how OZEV has attempted to keep distortions of competition as low as possible when designing the scheme, and why OZEV believes that the proposed mitigations are sufficient given the potential for significant distortions. Where the Assessment has identified mitigations or conditions which could limit competition distortions, it would be improved by explaining how such mitigations would limit distortions, the reasoning behind excluding potential mitigations and whether it is commensurate in order to achieve the policy objective.

Assessment of effects on investment

- 3.70 The Assessment focuses primarily on the potential distortions to competition, with little focus on impacts on investment.

- 3.71 The Assessment explains at a high-level that:

- (a) non-subsidised sites may struggle to compete with MSA chargepoints receiving the RCF subsidy, which could limit investment in non RCF funded sites; and
- (b) current levels of investment at MSAs are below what is needed to achieve the policy objective.

- 3.72 The evidence used to support the conclusions made in the Assessment comes primarily from engagement with MSA operators. While useful to gauge current and potential investment intended by MSA operators, it does not appear to consider impact on any intended future investment by CPOs. Submissions from the industry trade association and third party CPO suggest that significant private investment is planned across the network by 2030, with tens of thousands of chargepoints planned this year, aiming to double the network size. The Assessment could identify or explore the potential impacts of the scheme on current or future CPO investment.

Step 4: Carrying out the balancing exercise

- 3.73 The fourth step involves an evaluation of the subsidy against subsidy control Principle G: subsidies' beneficial effects (in terms of achieving their specific policy objective) should outweigh any negative effects, including in particular negative

effects on: (a) competition or investment within the United Kingdom; (b) international trade or investment.⁴⁶

- 3.74 The Assessment identifies the expected strategic benefits of the RCF as carbon emission savings and improved air quality (because the RCF will enable more chargepoints to be installed), cost efficiency savings (by futureproofing straight through to 2035 over incremental upgrades) and levelling up (because the RCF will enable chargepoints to be installed at sites disadvantaged by high costs and low utilisation).
- 3.75 The RCF is also expected to generate wider benefits such as job creation (from increased employment demands from DNOs, the chargepoint infrastructure industry and EV manufacturers), time savings (avoiding queues that would arise from the under-provision of chargepoints) and cost efficiency savings (as refuelling an EV is projected to be cheaper than using petrol or diesel).
- 3.76 We note that some of the additional benefits relate to EV use in general rather than the RCF specifically. Further, the Assessment itself acknowledges that not all expected benefits may be fully realised at the pilot stage. Nonetheless, OZEV indicates that the RCF pilot will generate a favourable benefit-cost ratio.
- 3.77 OZEV also sets out potential negative impacts, mainly focusing on the competition issues identified in Step 3, such as increasing MSA operator market power (see paragraph 3.50). OZEV points to the mitigations also set out in Step 3 to address these, along with noting the positive impact on competition from the RCF (for example, through the requirement to have at least 2 open-access CPOs at RCF funded sites).
- 3.78 However, we note in paragraphs 3.52 to 3.59 how the competition assessment could be improved. We would expect these improvements to flow through to Step 4, with the greater detail and additional considerations taken into account as part of the balancing test, thereby improving the Assessment overall.

⁴⁶ See [Statutory Guidance](#) (paragraphs 3.96 to 3.98) and [SAU Guidance](#) (paragraphs 4.20 to 4.22) for further detail.

3.79 Additionally, we note areas not covered in Principle G which could improve the Assessment if addressed:

- (a) there was no clear consideration of negative effects on investment (an issue also cited as an area of concern by a third party) or consideration of geographical and distributional impacts;⁴⁷
- (b) while OZEV does set out that there will be no negative impacts on international trade or investment, it does not provide details underlying this conclusion (or identify positive impacts).

Energy and Environment Principles

3.80 This step involves an evaluation of the scheme with regard to compliance with the energy and environment principles, where these are applicable to the subsidy/scheme.⁴⁸

3.81 The Statutory Guidance summarises the scope of the different energy and environment principles that apply to different types of subsidies.⁴⁹ OZEV has assessed that Principles A and B apply. We are satisfied that the other energy and environment principles are not applicable to this scheme.

Principle A: Aim of subsidies in relation to energy and environment

3.82 The assessment against Principle A should show how the subsidy is consistent with delivering a secure, affordable and sustainable energy system and a well-functioning and competitive energy market, or increasing the level of environmental protection compared to the level that would be achieved in the absence of the subsidy. If a subsidy is in relation to both energy and environment, it should meet both of these limbs.⁵⁰

3.83 The Assessment sets out that both limbs of Principle A apply. With respect to energy, the Assessment states that the RCF pilot aims to ensure that EV charging is properly supported via reliable energy infrastructure through upgrading grid capacity at MSAs, supporting long-term Net Zero goals. It notes that the scheme aims to address competition issues at MSAs by requiring the presence of two CPOs at each site, and that the CMA will continue to monitor the market.

⁴⁷ [Statutory Guidance](#), paragraphs 3.100 to 3.103

⁴⁸ See Schedule 2 to the Act.

⁴⁹ Principles A and B apply to all subsidies in relation to energy and environment. Principle C applies for subsidies for electricity generation adequacy, renewable energy or cogeneration. Principle D applies to subsidies for electricity generation only. Principle E applies to subsidies for renewable energy or cogeneration. Principle F applies to subsidies in the form of partial exemptions from energy related taxes and levies. Principle G applies to subsidies that compensate electricity intensive users for increases in electricity costs, Principle H relates to subsidies for decarbonisation of industrial emissions. Principle I relates to subsidies for improving energy efficiency of industrial activities.

⁵⁰ [Statutory Guidance](#), paragraphs 4.19 to 4.28.

- 3.84 With respect to increasing the level of environmental protection, the Assessment sets out that the scheme aims to increase the number of EVs and journeys taken by EVs, leading to lower emissions from road vehicles. The Assessment quantifies the CO2 element of this reduction in particular.
- 3.85 The Statutory Guidance states that subsidies and schemes with a specific policy objective of promoting Net Zero will tend to be consistent with Principle A.⁵¹ As noted above, the RCF pilot scheme aims to support long-term Net Zero goals.
- 3.86 Nevertheless, the assessment of Principle A could be improved through more information on the costs and benefits involved with respect to the first limb of the principle. Further, the Assessment notes the potential for CMA activity to ensure the market remains competitive, and we reiterate our observation that assumed action should not be relied on as a mitigation for any subsidy or scheme distortions.

Principle B: Subsidies not to relieve beneficiaries from liabilities as a polluter

- 3.87 The assessment against Principle B should provide a clear statement as to how the proposed subsidy or scheme does not relieve a polluter from having to bear the full costs of the pollution caused.⁵²
- 3.88 The Assessment confirms that MSA operators are not relieved from any liabilities arising from their responsibility as a polluter and that this is explicitly stated in the fund's Terms and Conditions as well as the draft Grant Funding Agreement.

⁵¹ [Statutory Guidance](#), paragraph 4.27

⁵² [Statutory Guidance](#), paragraphs 4.29 to 4.35.