

# (I<sup>2</sup>EV) My Electric Avenue

## Month 36

## Independent Review Response

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*The 'My Electric Avenue' project is the public identity for the Low Carbon Networks Fund Tier 2 project "I<sup>2</sup>EV."  
The formal title "I<sup>2</sup>EV" is used for contractual and Ofgem reporting purposes.*

Project leads



Project partners



My Electric Avenue has received support from Ofgem through the Low Carbon Networks (LCN) Fund.

### Version Tracking

Date	Version	Author/s	Notes	Reference documents
04.12.2015	DRAFT v0.1	TB	Draft response	RD15-002325-3 My Electric Avenue - M36 Review Report
07.12.2015	DRAFT v0.2	TB	Incorporating GN comments	RD15-002325-3 My Electric Avenue - M36 Review Report
08.12.2015	DRAFT v0.3	RH	SEPD review and response	RD15-002325-3 My Electric Avenue - M36 Review Report
09.12.2015	Issue v1.0	TB	For issue.	

### Final Approval

Date	Version	EA Technology authorisation by	SEPD authorisation by
09.12.2015	Issue v1.0	Duncan Yellen	Richard Hartshorn

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# 1. Introduction

## 1.1 Purpose

The purpose of this document is to provide a response to the 36 month review of the I<sup>2</sup>EV (My Electric Avenue) project that has been completed by the independent consulting company appointed for this task, Ricardo Ltd.

## 1.2 Background

Ricardo is responsible for completing regular independent reviews of the I<sup>2</sup>EV (My Electric Avenue) project. As stated in the Project Direction, the Successful Delivery Reward Criterion (SDRC) for the independent review process are as follows:

Successful Delivery Reward Criteria	Evidence
<p>9.4 An assessment of how the DNO and other interested parties can ensure independent validation of a third party's Solution throughout a project, and upon completion.</p> <p><b>Related learning:</b> Learning outcome C1.3.2 - how are the project and results validated?</p> <p><b>Related Task:</b> 9 - Project recommendations and implementation</p> <p><b>Related commercial aims:</b> Under 2.2 the commercial aims are to: Demonstrate delivery of a low carbon network project by a non-DNO on behalf of a DNO (see 'commercial innovation delivery framework' on page 10)</p>	<p>9.4.1 The provision of 6 monthly independent reviews of the project and technology with specific inclusion of improvements and adaptations to working practices incorporated by the project team following the previous independent review.</p> <p>(a) Produce 6 monthly report (highlighting strengths and improvement areas) to be tabled at steering group meetings.</p> <p>(b) Produce response to 6 monthly report, detailing improvements planned by Project Steering Group, as a result of the review.</p> <p><b>Achieved by months 7, 13, 19, 25, 31, and 36 (July 2013, January &amp; July 2014, January, July &amp; December 2015)</b></p>

**Table 1: SDRC for the Independent Review process**

The 36 month independent review report completed by Ricardo meets the SDRC evidence requirement 9.4.1 (a). This report meets the SDRC evidence requirement 9.4.1 (b) as outlined in the table above.

## 1.3 Document structure

The structure of this document is as follows:

- Section 2: Month 36 independent Review Executive Summary;
- Section 3: Response from EA Technology; and
- Section 4: Response from Scottish and Southern Electricity Power Distribution (SSEPD).

## 2. Independent Review Executive Summary

The My Electric Avenue project has trialled a new technology, called Esprit, for managing the supply of electricity to electric vehicles connected to a local distribution network. This project, funded by Ofgem's Tier 2 Low Carbon Network (LCN) Fund, has also trialled a novel commercial arrangement.

Unusually for a LCN Fund project, the project has been led by EA Technology as the Third Party Lead Supplier, with Scottish and Southern Energy Power Distribution Limited (SSEPD) as the host Distribution Network Operator. The other project partners are Northern Powergrid, Nissan, Fleetdrive Electric and Zero Carbon Futures. Further support has been provided via subcontractors, which include the University of Manchester, De Montfort University, Ricardo UK Ltd, Automotive Comms, and Creative Concern.

This report is the sixth and final periodic 6-monthly Independent Review. It covers the Reviewers overall assessment of the project.

The reporting period is 1 July 2015 to 30 November 2015<sup>1</sup>, principally involving:

- **Commercial** – Completing SDRC 9.2 & 9.3 on the learning from the novel commercial arrangement, and recommendations for improving the processes
- **Technical Trial** – Completing the Technical Trial and decommissioning Esprit technology; completing data collection and analysis; completing SDRC 9.6 and SDRC 9.8 reporting the results from the Technical and Social Trials
- **Social Trial** – Completing the Social Trial, and reporting the results in SDRC 9.6 and SDRC 9.8
- **Project Management** – Ongoing effective project management and coordination of project partner activities; planning final dissemination activities; ensuring all reporting is completed on time, and managing the document review processes

The review is based upon key documents delivered to Ricardo for the purpose of the review, and has been augmented with formal and informal discussions during project meetings and conference calls with EA Technology.

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<sup>1</sup> The timing of this review was adjusted from 6 months to 5 months so that EA Technology and SSEPD could prepare their response to the M36 Independent Review prior to completing the project on 31 December 2015

## 2.1 Overall assessment of the project

What is the Reviewers' overall assessment of the project so far?	Excellent
Have the key objectives for the period been achieved?	Yes
Has the project made satisfactory progress towards meeting the overall project objectives?	Yes
Has each Task made satisfactory progress against the Plan of Works?	Yes
Has the project management been performed as required?	Yes
Has the collaboration between project partners and sub-contractors been effective?	Yes
Is there evidence of underperforming project partners or sub-contracts, lack of commitment or change in interest?	No
Have the project partners adequately publicised the project to raise awareness of the project with the general public?	Yes
Have the project partners adequately disseminated results and learning from the project?	Yes

The My Electric Avenue project has been very successful. Both the commercial and technical innovations have been demonstrated and shown to add value. The project has been delivered using a novel commercial arrangement, with SSEPD as the lead DNO and EA Technology as the Third Party Lead Supplier. The Esprit technology has proven the concept of demand side response (DSR) control of EV charging to protect LV networks.

EA Technology have continued to work professionally and diligently in their role as project coordinator, successfully managing a complex arrangement of project partners and subcontractors. Teamwork within the project consortium has been excellent, with enthusiasm and morale remaining high throughout the project.

The My Electric Avenue team responded well to the various challenges encountered during the project. The changes imposed by Ofgem led to innovations in the recruitment approach, which yielded very high levels of public interest in the project. The agility and flexibility of the focused project team enabled them to respond quickly to the various issues encountered with the Esprit technology.

The My Electric Avenue project has collected a wealth of technical and social data regarding EV charging and user behaviour. This unique data set includes technical data from the electric vehicles, technical data from the monitoring of the low voltage systems and Esprit technology, and the social data concerning the experience of the Technical and Social Trial participants. Much learning has already been gleaned from this data, which has been reported in the Successful Delivery Reward Criteria reports.

The project has also delivered additional learning, such as the report on PLC communication and the Top 10 Tips series. Learning from My Electric Avenue will help to inform future projects seeking to develop demand side response (DSR) tools. It is likely that the MEA data set will be valuable input for many future academic and research projects in the UK and beyond.

However, one significant area of concern which must be addressed for future innovation projects with a novel commercial arrangement, is the high level of risk imposed on EA Technology by Ofgem via the restrictions outlined in the Project Direction. SSEPD and EA Technology have highlighted several areas for process improvement in the SDRC 9.2 & 9.3 report. These recommendations must be duly noted and actioned by Ofgem to improve the management and operation of future innovation projects.

## 2.2 Highlighted Strengths

- **Strong leadership** by the Third Party Lead Supplier, EA Technology
- **Teamwork, dedication and long term commitment** of the project partners and subcontractors
- **Recruitment of participants** for the Technical and Social Trials
- **Good management of customer relationships** by EA Technology, Fleetdrive Electric, Zero Carbon Futures and De Montfort University throughout the Technical and Social Trials
- **Timely and effective public engagement** through press releases, newsletters, social media, press days, and the project website
- **Good understanding of the data collected**, and rich data set for future research projects
- **Dissemination of project learning** through website publications (e.g. Top 10 Tips series), conference presentations, webinars and technical journal papers

## 2.3 Recommendations

- For the successful uptake of similar novel commercial arrangements in future LNC Fund projects, **Ofgem must recognise the Third Party Lead Supplier in their role as project coordinator**
- **Technology risk mitigation** measures should be incorporated into the scope of work for any innovation project, such as phasing the roll-out of the technology under trial
- **Requirements for data collection and analysis** must be considered at the beginning of the innovation project, and these requirements and activities should be updated regularly as the project progresses
- **Learning from the My Electric Avenue project** should be incorporated into the next generation of Esprit technology, which will require further development if it is to become a commercial product
- **Further analysis** of the data collected during the My Electric Avenue project will lead to more learning, which should be suitably accredited back to the MEA project

### 3. Response from EA Technology

EA Technology is gratified that the independent review undertaken by Ricardo in the closing stage of the I<sup>2</sup>EV (My Electric Avenue) project has stated that its overall assessment of the Project is 'Excellent.' It is particularly pleasing that the excellent team work between the Project's delivery partners and Project Management capabilities has been recognised.

EA Technology is also pleased that Ricardo agrees with the assessment that the Esprit technology has successfully demonstrated the concept of demand side response (DSR) for electric vehicle charging for the protection of low voltage networks. Additionally, the confirmation that Ricardo believes that the Project has been very successful, demonstrating clear added value from both the Commercial and Technical Innovation areas, validates the investment in the Project.

Ricardo's recognition of the additional learning generated by the Project, beyond that necessary to meet the Project's Successful Delivery Reward Criteria, and the potential for more to be generated once the data is made publically available is also valued.

Acknowledgement of the wide range of dissemination methods utilised throughout the Project to maximise the distribution of Project Learning to the Energy and Automotive Industries is appreciated.

The recommendations made by Ricardo are rightly intended to benefit future Projects undertaken by, or on behalf of Ofgem; for EA Technology; and for Project Partners who continue to make use of the data after Project completion. The recommendations applicable to EA Technology's future Projects and Product Development will be implemented where applicable. Recommendations relevant to other organisations such as Ofgem will be passed to them for consideration.

At the end of the Project, EA Technology believes that My Electric Avenue has pushed boundaries, challenged the 'standard approaches' and delivered value to the Energy Sector and wider Industry, most notably the automotive sector.

Finally, EA Technology would like to thank Ricardo for its valued contributions to the My Electric Avenue Project. Its involvement in the Project has provided benefit through unbiased input and recommendations to improve both My Electric Avenue and future Ofgem funded innovation projects for the benefit of UK plc.



## 4. Response from SSEPD

Scottish and Southern Energy Power Distribution (SSEPD) is pleased to see that the positive view of this reporting period held by ourselves and EA Technology has been echoed by the independent review, and that the overall review of the Project is also recognised as being of a high quality.

It has been a busy and productive period, with the trials drawing to a close and the commercial, technical and social findings being analysed and reported on. As EA Technology have stated, it is pleasing that Ricardo also acknowledge the wealth of learning already generated from the Project's trials and commercial reviews, and that it will be valuable for other work moving forwards.

It has been excellent to see the Project gather such insights and take the first steps toward proving a solution can be deployed to help enable not only customers, but also the electricity and automotive industries transition to a low carbon future.

We would like to thank EA Technology and all Project Partners for their outstanding contributions and delivery of the Project, and we hope that Ofgem also acknowledge the value of outputs generated and utilise some of the key findings in governing future innovation projects to benefit the excellent innovation they've helped create.