My Electric Avenue (Innovation Squared)

Dedicated website – Yes

Organisation webpage – Yes

Centralised portal – ENA Smarter Networks

Objectives/Success Criteria – Yes

Closedown/final report – Yes

Open-source data – Yes

Peer-reviewed academic output (Primary Subject / Referenced) - 1 / 0

Brochures/Case Studies/Videos – Yes

On-line major conference/event presentations - 8

Dissemination Event / Output available – 1 / 1

Follow-on project – Yes (Management of plug-in vehicle uptake on distribution networks)

Consumer Engagement

Consumer Participation – Yes

Consumer Feedback – Yes

Output Summary

Progress reports – Yes

Detailed and objective final report – Yes

Project method detailed – Yes

Performance to objectives detailed – Yes

Lessons learned identified – Yes

Policy/Regulation implications reviewed – Yes (Third parties managing innovation projects)

Summary closedown report plus multiple sub-reports for individual work packages. Extensive output library using different types of media.

Outcomes vs. Objectives/Targets

Performance to objectives – All achieved

Key Findings

- The peak demand for residential EV charging coincides with the normal evening peak, resulting in a doubling of the After Diversity Maximum Demand per household.
- Increasing penetration of EV causes both thermal and voltage problems on the network, with 32% of UK LV feeders requiring intervention for an EV penetration of 40%.
- The introduction of the Esprit DSR system to manage charging improved thermal headroom by 46% and voltage headroom of 10%.
- Excessive cycling of the batteries using DSR should be avoided, with an off time of between 15 and 60 minutes recommended.
- Using a third party to manage the project was successful, allowing a specialist project team to be recruited and allowing more efficient use of DNO resources.

- Projects which trial new equipment and technology should plan a small-scale trial prior to a full rollout.