

Thames Valley Vision

Dedicated website – Yes

Organisation webpage – No

Centralised portal – ENA Smarter Networks

Objectives/Success Criteria – Yes

Closedown/final report – Yes

Open-source data – Yes

Peer-reviewed academic output (Primary Subject / Referenced) - 2 / 9

Brochures/Case Studies/Videos – Yes

On-line major conference/event presentations - 0

Dissemination Event / Output available – 1 / 11

Follow-on project – No

Consumer Engagement

Consumer Participation – Yes

Consumer Feedback –

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 (related to technology implementation)

Outcomes vs. Objectives/Targets

Performance to objectives – All achieved

Key Findings

- To ensure the optimised application of LV substation monitoring at scale, the project outputs set out where retrofit application should be targeted. New secondary substations should be designed to include LV monitoring equipment to minimise costs, and new equipment should be designed to incorporate this functionality.
- Council Tax Band and mean daily demand calculated from quarterly meter reading data were used to 'buddy' EPM households with non-monitored households. This has proven the concept of a 'buddying' algorithm to assign more refined demand profiles to properties for planning purposes, however further work to investigate alternative matching characteristics would be valuable.
- Further work to advance energy storage integration should include reducing the size of the units and reducing the noise generated when the cooling fans are operating, to ensure suitability for roadside installation in residential areas.

- The forward scheduling of energy storage activity based on historical monitoring data minimises the need for real-time monitoring and closed loop control. This approach could be further developed for the deployment of LV connected energy storage solutions.
- Medium term demand forecasting of several years in the future required three years' worth of historical data.
- Recruitment for the trials was slow and resource intensive, altering the customer letters to 'Dear Firstname Surname' saw a rapid increase in response rate to approximately one-third. Project partners which are respected and trusted within the local community provide significant leverage in trial recruitment. Mention of universities and the local council were especially valuable in recruiting customers. Supplying multiple documents was perceived as doubling the legal review and sign-off activities. Combining all into a single document simplifies the information delivered to the customer.
- Substation monitoring equipment failures occurred, necessitating site visits and unit replacement. Consideration should be given to the level of spares based upon product maturity and expected failure rates. Data streaming in near real time is valuable for operational decision making, but is data intensive. For volume system deployment data volumes and update frequency need to be considered.