

LV Network Interventions

The following problem statement has been developed by the innovation teams within the UK's Gas and Electricity Networks for the 2024 Energy Innovation Basecamp.

Theme: Net Zero Transition Impacts

Network Areas: Electricity Distribution

What is the problem?

Electricity Distribution Network Operators (DNOs) have identified that in a significant number of distribution substations the first problem to hit would be high volts on the associated LV feeders due to embedded PV preventing customers from charging their EV, but then over time as more heat pumps and EV chargers are installed new thermal issues would start to occur. Therefore, we potentially have two waves of corrective action to resolve high volts and then, years later, thermal issues.

What are we looking for?

DNOs have already adopted a number of solutions to resolve high volts, but they would like:

- a full list of technical solutions to resolve voltage and thermal issues;
- what the benefits case for each of the potential solutions would be; and
- whether taking a “fix once” approach with one, potentially more expensive solution could work out to be better value for money than fixing twice with two different, possibly cheaper solutions.

We are also open to completing development for new solutions to solve this problem, but preference is for existing solutions.

What are the constraints?

The solutions must be cost effective bearing in mind the solutions will only resolve issues for a small number of customers, typically less than 60, supplied from an individual LV main connected to a distribution substation.

The solutions must be unobtrusive as they will be close to where customers live.

Who are the key players?

DNOs will use the database to assess and adopt the appropriate solutions.

Customers will be the main beneficiaries as they will hopefully be affected by one intervention.

Does this problem statement build on existing or anticipated infrastructure, policy decisions, or previous innovation projects?

This problem statement will collect knowledge of all the solutions developed to resolve voltage and thermal issues. It builds upon existing work that NGED has completed as part of the Silversmith project.

What else do you need to know?

The ENA smarter networks portal is one source of information about solutions that have been trialled. There will be other sources of information, e.g. manufacturers websites.

Innovator submissions to this problem statement will be open [here](#) during March and April, but we encourage you to submit your response as early as possible, as networks will be able to review submissions as soon as they come in.

Energy Innovation Basecamp 2024 Problem Statement EIP128



You can also use the virtual Q&A on the Smarter Networks Portal to ask for more information about this problem statement. Questions may be answered online or at the ENA Problem Statement Launch in March 2024. More information on last year's Basecamp programme can be found [here](#).