Future 11kv Transformer

The following problem statement has been developed by the innovation teams within the UK's Gas and Electricity Networks for the 2026 Energy Innovation Basecamp.

Theme: Building Better and Faster

Network Areas: Electricity Distribution

What is the problem?

What is the wider context of the problem described above? Are there any specific details to expand on? If the problem statement is phrased as a question, this section may end by posing that question back to the innovator.

Secondary substation transformers have remained largely unchanged for many decades, with advancement in material sciences is it possible to develop a secondary transformer that performs in a similar manner as existing models but is lighter and more compact while retaining the same performance and functionality as existing transformers.

What are we looking for?

What kind of solution do you want? What TRL are you looking for? Does the solution need to be operable at scale? Are you looking specifically for methods and techniques? Does the idea need to have been tested to a certain extent already? There may be A) and B) sections if there is a wider issue with different types of solutions being sought.

SSEN are looking for a new or unique transformer design which utilise modern materials which can operate under the same conditions as our current fleet of transformers. The proposed idea could be a prototype or a device in its trial stages. We would like to see suggestions which could reduce the overall weight, complexity or improve visibility through in-built communications.

What are the constraints?

These might include "the solution must…" type responses (e.g., compliance with certain regulations, existing software, methodology or technology - or technology agnostic - applicability to specific networks, budgetary requirements, needing to be rolled out within a specific timespan…)

Any new device would need to be able to perform as well as our current fleet of transformers. It would have to conform to all relevant standards for secondary transformers and operate in a similar fashion as the historic device.

All devices would need to be suitable for placement in either indoor enclosures or outdoor pads.

Who are the key players?

Who are the key stakeholders affected by this problem statement? Who will adopt this solution? Who benefits from the resolution? What sort of innovators are you trying to attract solutions from? Who is the target market for this problem statement?

Key stakeholders would theSSEN Large Capital Delivery, Asset Maintenance and Operations teams

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

What are the links to previous or ongoing work? Where possible, please provide links to the SNP, individual pages on network websites describing similar work, etc. Are there any current or future dependencies? Are there any

other enablers that innovators should reference or specifically build on in their proposals? Are there any solutions which have already been considered / trialled?

This problem statement is new. This project must allow staff to continue to work safely and comply with Distribution Safety Rules. Any solution will need to be approved by stakeholders within the company.

What else do you need to know?

Use this space to add anything else that an innovator would need to know to submit a submission to this problem statement. This may be additional context on the issue, additional sources of information, additional information about your network's processes, or any additional enablers and constraints.

Innovator submissions to this problem statement will be open on the Smarter Networks Portal from 4th February to the 13th March, 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.

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 on 4th February 2026. More information on last year's Basecamp programme can be found on the Smarter Networks Portal.