

Vegetation Management in RMHZ

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: Maximising Use of Existing Infrastructure

Network Areas: Electricity Distribution and Electricity Transmission

What is the problem?

A Risk Management Hazard Zone (RMHZ) is established when an electricity asset is suspected to have a defect that could result in a catastrophic failure. A RMHZ limits the activities and duration operational staff can be in the zone. These RMHZs can vary in size dependent on the consequences of failure. If multiple assets are installed in a Grid or Primary substation then these RMHZs will overlap covering most of the area within the compound.

The problem we have is that weeds continue to grow throughout the year and need to be kept under control. Uncontrolled growth of weeds such as Buddleia and bindweed can become a hazard in a substation for staff needing to enter the compound. All network operators have a responsibility for the safe access by technical and maintenance staff.

In substations with large shingle compounds covered by a RMHZ vegetation management cannot be permitted to be carried out.

What are we looking for?

UK Power Networks is looking for an automated method to keep vegetation under control. The device should be able to move across the compound cutting down vegetation and apply weedkiller to prevent regrowth. We would like to set the device up and leave it for a few days and recover it and deploy it elsewhere.

What are the constraints?

Substation compounds are outdoors so the device must be able to operate in any weather conditions.

The surface of a compound is shingle, but there are also concrete paths that could be considered obstacles needing to be avoided.

The device will be unattended so it will need to: self-navigate the compound avoiding collisions with equipment; dispense weedkiller; report areas it has not been able to access; and recharge when necessary.

The device must be light enough to allow it to be transferred from one substation to another. It could be transported on a trailer.

Who are the key players?

The key stakeholders affected are staff responsible for operation and maintenance of substations. Operational safety teams will also be important stakeholders. The solution will be adopted by the maintenance team. This solution will provide safety benefits by controlling weeds even when RMHZs are in place. We are trying to attract innovators who work with autonomous machines. The target market are the network operators who have outdoor compounds that need vegetation to be controlled.

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

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.

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What else do you need to know?

N/A

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.