Energy Innovation Basecamp 2026
Problem Statement EIP174

Increasing Efficiency and Reducing Disruption in Cross-Road Service Replacements

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 Smarter Faster

Network Areas: Gas Distribution

What is the problem?

Cross-road service replacements are among the most complex, disruptive and costly activities undertaken by gas distribution networks. Traditional open-cut excavation across roads requires multiple teams, extensive traffic management, lengthy reinstatement and coordination with local authorities, resulting in high costs, programme delays and significant disruption to the public.

As network activity increases during GD3 — including service replacement, bulk works and reinforcement programmes — the volume of cross-road interventions will rise. Current approaches struggle to scale efficiently due to limited trenchless options for short spans, poor visibility of existing asset routes, and disconnected processes between design, permitting, delivery and reinstatement.

Without innovation, cross-road service replacements will continue to be a constraint on public disruption

What are we looking for?

We are seeking innovative, scalable solutions that enable gas networks to replace cross-road services more efficiently, safely and with less disruption.

Solutions may include (but are not limited to):

- Short-span trenchless or guided bore technologies suitable for road crossings
- Integrated site apps for real-time cost, reinstatement and progress tracking
- New methods for shared excavation and reinstatement with other utilities
- Advanced subsurface mapping (e.g. GPR, AI-assisted modelling) to improve route certainty

Solutions should reduce time on site, traffic disruption, reinstatement cost and delivery risk, while maintaining safety and quality.

TRL 4–7 solutions are encouraged, with a clear pathway to operational rollout.

What are the constraints?

Solutions must:
• Be safe to deploy around live gas assets and public highways
• Comply with street works, reinstatement and safety regulations
• Minimise traffic management requirements and road occupation time
• Integrate with existing asset records, GIS and delivery systems

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• Be cost-effective and repeatable at scale
• Avoid increasing long-term maintenance or reinstatement risk

Who are the key players?

• Trenchless technology and guided bore specialists
• Subsurface mapping and sensing providers
• Construction technology and digital workflow companies
• Utilities coordination and streetworks platforms
• Universities and applied engineering research organisation

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

Challenge builds on:
• Existing trenchless and guided bore trials
• Early use of GPR and subsurface surveys
• Digital permitting and street works tools
• Collaborative street works initiatives across utilities:

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.