

EIP138 – Plastic Waste Reduction

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: Decarbonising Network Operations

Network Areas: Electricity Distribution, Electricity Transmission, Electricity System Operator, Gas Distribution, Gas Transmission (Delete as Appropriate)

'Plastic Waste Reduction: How do we reduce the waste of materials and non-recyclable plastics?'

What is the problem?

The current problem with GB energy networks and plastic waste during operational works is the widespread use of single use plastics in infrastructure installations and maintenance, such plastic fittings, plastic sheeting (eg visqueen), packaging for materials, cut offs and bypasses. These plastics are often not properly recycled and contribute to environmental pollution. Additionally despite growing awareness of sustainability, many companies still lack comprehensive strategies for reducing plastic waste, leading to an accumulation of non-biodegradable materials in landfill or the environment. Efforts to reduce the waste are hindered by cost, logistical challenges and limited industry wide adoption of sustainable alternatives.

What are we looking for?

To tackle the problem of plastic waste, the GB energy networks would be looking for solutions that covers the below:

- Adopting sustainable materials, by transitioning to biodegradable or recyclable alternatives, reducing the reliance on single use plastics
- Helping to improve the recycling protocols within operational processes to ensure waste is effectively sorted and recycled rather than ending up in landfill.
- Materials selected must be compatible and fit for purpose

The solutions or project proposals can cover various TRLs whether it's a market ready solution or an innovative piece of technology that can help address the issue. For the market ready solutions they would need to go through a trial period on the live network to assess their compatibility.

What are the constraints?

Currently the materials and processes that are in place are to make the networks as cost effective and efficient as possible. This then poses an issue when trying to move away, that may cause costs to increase and reduce the efficiencies in place. Networks primary environmental concerns are typically related to carbon emissions, reliance of fossil fuels and infrastructure degradation rather than plastic waste. Which creates constraints with the adoption of new practices and use of materials, the solutions associated costs must be competitive with existing.

Who are the key players?

Utility companies as a whole are affected by this issue, the problem specifically was introduced by Gas Networks who have slightly different forms of waste to other networks. Specifically gas networks have a large volume of waste on single use fittings, pipe cut offs and single use pipe bypasses. However there are issues that extend to other utilities with various different issues and similarities such as non-recyclable packaging and plastic sheeting.

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

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N/A

What else do you need to know?

Any further details can be provided on request upon scale of wastage per annum or specific networks waste.

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.

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](#).