

# Energy Innovation Basecamp 2024

## Problem Statement EIP137

## Circular Economy in Construction

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, Gas Distribution, Electricity Transmission, Gas Transmission**

#### **What is the problem?**

Construction sites are critical touchpoints for reducing environmental impact, yet are often linear practices where materials, resources, energy are not fully utilised. This model misses opportunities to minimise waste, maximise resource efficiency and create a regenerative system where materials, energy and products are continuously reused and repurposed. To achieve net-zero goals and impact sustainability in the short term, the networks must reimagine its construction processes through the lens of the circular economy.

#### **What are we looking for?**

We are seeking new and creative innovative ideas that will drive innovation in sustainability and circular economy practices that are scalable, impactful and applicable in construction processes. Examples include:

- Decentralised resource recovery systems that repurpose resources like energy and materials at a local level.
- Digital Tools for Resource Optimization that monitors, predicts and optimises the use of resources like water, energy and materials in real time.

#### **What are the constraints?**

Solutions must be:

- Tangible Impact: Solutions with measurable outcomes that improve operational performance (e.g., percentage reduction in waste, CO<sub>2</sub> savings, or cost savings).
- Technology-Driven Approaches: Tools that enhance material tracking, enable reuse, or optimize waste management in innovative ways.
- Policy-Driven Models: Concepts that address regulatory compliance and create frameworks for circularity within construction projects.

#### **Who are the key players?**

Network Operations and Engineering Teams who will be responsible for implementing and adapting circular solutions within day-to-day workflows. Also, procurement and innovation teams will be key to support development and implementation,

Academia, Startups and Innovators who will provide disruptive solutions, technologies, or business models that can be integrated into existing systems and create new ones

End customer will be members of the public within local communities who will be impacted by construction, waste, and resource management practices.

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

1. Net-Zero Commitments:

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- The UK's legally binding commitment to reach net-zero emissions by 2050 (Scotland by 2045) directly influences the need for circular economy solutions.
- Policies like the Environment Act 2021 and Waste Framework Directive set waste reduction, recycling, and resource efficiency targets.

### 2. Resource and Waste Management Policies:

- Regulations promoting extended producer responsibility (EPR) and waste prevention strategies provide frameworks for circular practices.

### What else do you need to know?

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](#).