Energy Innovation Basecamp 2024
Problem Statement EIP130

Future of Energy Consumer Behaviour Changes

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: The Consumer Journey to Net Zero

Network Areas: Gas Distribution, Electricity Distribution

What is the problem?

To put our consumers first in any future of energy transition, we need to understand the impacts of any transition on consumer behaviour and their choices.

We also need to understand our role as a critical service provider to ensure we deliver best value to consumer.

What are we looking for?

The scope should include an assessment of projects already completed on consumers and the transition, any cross-sector reports on community led projects e.g. water, and a literature review. Scope should cover all domestic customers for hydrogen ready blending, 100% hydrogen boilers and heat pumps and consider regionality barriers due to rurality and fuel poverty. The scope should also consider the option of solar, battery storage, biomass and heat networks. The project should also consider if people consider oil, LPG or wood as an alternative.

Key questions to answer are:

- What are the key enablers and barriers to consumers transitioning to net zero?
- How are consumers impacted by their energy systems in their home in everyday living (e.g. heating, hot water) and considering wider uses of energy systems (e.g. drying clothes on radiators, or home temperature requirements for Priority Services Register consumers)?
- How does customer segmentation enable or provide barriers to transitioning? (homeowner, tenant etc.)
- What are the priorities of consumers when it comes to choosing a new heating solution?
- Is there a preferable heating solution for each scenario identified that includes social and economic status?
- What are the factors around willingness to pay that need to be considered in each scenario?

This is a low TRL project, and a report should be produced. A decision tree on drivers of consumer behaviour on heating choice or similar would be useful. Also, a summary of risks for each scenario reviewed should be included as should a summary of benefits for each scenario.

What are the constraints?

Cost of solution and uncertainty of technology could be key drivers and contextualising those could be considered a constraint if data is not available to support.

Who are the key players?

Key stakeholders are:

- Energy network consumers
- Charities and other key organisations and stakeholders
- Social landlords
- Local council area planning

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

This very much builds on a previous project that WWU completed titled, Switching Vulnerable Consumers to Hydrogen, details of which can be found here. Any project should build on the findings of this project and not duplicate work already completed.

Gas projects such as the Cadent Whitby Trial Report and H100 Fife, and electricity projects such as Project LEO should be reviewed.

What else do you need to know?

Priority Services Register codes.

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.