Energy Innovation Basecamp 2025
Problem Statement EIP148

Reduction and Avoidance of Bird Strikes

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: - Building Better, Faster and Safer

Network Areas: Electricity Distribution, Electricity Transmission

What is the problem?

SPEN have committed through their Action Plan for Nature to be 'nature positive for direct impacts by 2030'. This commitment and plan to get them involves taking steps to Identify, Plan, Measure / Value, Act and Transform the business, and assessing impacts on nature from existing infrastructure is part of this.

Bird strikes on overhead line (OHL) infrastructure pose significant challenges, including power outages, damage to equipment, and harm to avian populations. These incidents can lead to costly repairs, service interruptions, and negative environmental impacts. As such, there is a pressing need to develop and implement effective strategies to monitor, record, and prevent bird strikes on OHL infrastructure.

Key Challenges:

1. **Detection and Monitoring:**
   - Current OHL infrastructure lacks the capability to effectively detect and monitor bird activity in real-time.
   - There is a need for reliable sensors and monitoring systems that can accurately identify bird presence and behaviour near power lines.
2. **Data Recording and Analysis:**
   - Existing systems do not adequately record data on bird strikes, making it difficult to analyse patterns and develop preventive measures.
   - Implementing robust data recording and analysis tools is essential for understanding the frequency, timing, and locations of bird strikes.
3. **Preventive Measures:**
   - Traditional methods, such as bird diverters and reflectors, have limited effectiveness in preventing bird strikes.

Innovative solutions are required to deter birds from flying into power lines without causing harm to the birds or disrupting power transmission

What are we looking for?

- The primary objective is to identify and implement retrofitting solutions for existing OHL infrastructure that enhance the monitoring, recording, and prevention of bird strikes. This involves integrating advanced technologies and design modifications to create a safer environment for birds while ensuring the reliability and efficiency of power transmission

Potential Solutions include:

1. **Advanced Sensor Integration:**
2. **Automated Data Recording:**
3. **Innovative Deterrents:**

What are the constraints?

The solution must:

- Develop specific recommendations and actions SPEN can implement on their networks to better record, avoid and reduce impacts on birds
- Solutions should aim to be as cost effective as possible. Details on the likely cost of implementing measure would be appreciated.

Who are the key players?

SPT, SPM, SPD, Local Authorities, Nature Scot, RSPB, Natural England, Specialist Companies, Startups, Local Communities.

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

N/A.

What else do you need to know?

We would expect this study to be tailored to the UK context in which SPEN operates, taking consideration of the different bird species across SPENS operational areas and the differing characteristics.

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.