

EIP037 - How can we optimise future asset and system reliability?

28 February 2023

Why do network owners require planned outages?

- Require physical access to assets
- Deliver strategic, critical asset maintenance & interventions
- Enable decarbonised infrastructure & grid connections.
- Ensure safety from the system

What happens if network owners cannot access & manage its assets?

- Safety
- Network Reliability
- Cannot deliver connections & infrastructure to enable Net Zero

Why is system access becoming more difficult to achieve?

- **Generation**
 - More connections
 - Greater critical connections
 - Greater intermittency
- **Demand**
 - Greater demand (electrification of heat & transport)
 - Demand Side Response (DSR)
- Greater necessity for network availability, security & reliability.
- Greater seasonal resilience

Key Enablers

- **Virtual/Dynamic System/Scenario Planning**
 - E.g. **NGESO: Virtual Energy System** (NGESO SIF Project)
- **Strategic Network Design**
 - E.g. HND
- **Government (DESNZ)**
 - Greater energy focus
- **Ofgem & Commitment to delivering major infrastructure**
- **Existing Innovation Projects**
 - Exploring non-intrusive methods of condition monitoring
 - Both reduce need for system access & increase capacity of existing network
 - E.g. SCADENT

Constraints

- **Co-ordination of system access planning between network owners**
- **Political Conditions**
 - Stability challenges due to governmental changes
 - Geo-political events – difficult to predict generation availability
- **Implementing Dynamic Delivery**
- **Planning for a Renewable Generation Energy Mix**
 - Intermittency, Inertia challenges

Involvement and Implementation

Key Stakeholders

- **Beneficiaries - Electricity Network Owners & Asset Managers**
 - E.g. Transmission Network Owners.
 - Enable electricity infrastructure owners to effectively, affordably manage respective asset bases.

Target Implementation Date

- **Prior to 2030**
 - Align to major UK transformational targets (electrification of transport & heat, GB energy mix)
 - Enable safe & optimal strategic asset planning and deliver asset management & new infrastructure that enable the energy transition.

Target Market

- **GB Electricity Network Owners**
 - TOs, DNOs, OFTOs. (with potential application to gas networks/other utilities)
 - Enable all GB electricity network owners to optimally deliver asset management interventions whilst maintaining high reliability & security of supply and delivering major infrastructure & connections.

Energy Innovation Basecamp

28 February 2023
ICC Birmingham

#Basecamp28

Participant joining code
[Slido.com](https://www.slido.com)

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