# Accelerating your **journey to Net Zero**

Blake Clough Consulting is a specialist energy consultancy with a focus on electricity networks. We cover a range of areas relating to power systems analysis, feasibility studies, project engineering, innovation, regulation and technical strategy, with a strong emphasis on our customer relationships.

We are passionate about the decarbonisation of the energy system and the transition to "Net Zero" and aim to support our clients to accelerate this change as effectively as possible, whether that be local authorities, large network companies, or private developers.

Our work is underpinned by solid analysis and modelling, including techno-economic assessment, cost benefit analysis, power systems analysis, network modelling and innovation projects that tackle real-world system challenges, demonstrate new approaches to network operation and planning, and generate learning that informs scalable, long-term solutions.

## Responding to Emerging Technical Challenges

Blake Clough's Innovation team works across all voltage levels, from transmission through to low voltage distribution, helping network operators and industry stakeholders respond to the increasing complexity and uncertainty created by the energy transition.

We specialise in designing and delivering technically grounded projects that support the delivery of Net Zero while enhancing network resilience, operability and value-for-money for consumers.

Electricity networks are undergoing rapid transformation as the UK accelerates toward its Net Zero targets. Traditional planning and operational approaches are being stretched by the growth of low-carbon technologies, such as electric vehicles, heat pumps, solar PV and battery storage.

These inverter-based resources are displacing synchronous generation and introducing technical challenges including reduced inertia, lower fault levels, and power quality disturbances. As a result, networks across all voltage levels are facing a new set of power quality, stability, observability and control issues.

At transmission level, the challenges are well recognised: dynamic stability risks, declining short-circuit current, and restoration complexity.

However, these issues are now moving into distribution, where low voltage (LV) and medium voltage (MV) networks are increasingly impacted by new demand and generation behaviours. Issues such as harmonic distortion, sub-synchronous oscillations, voltage unbalance, and data gaps in LV connectivity are no longer theoretical, they are already affecting operational and planning decisions.

## Delivering Practical Innovation with System-wide Impact

Blake Clough's Innovation team helps clients to identify and explore these evolving challenges, with a focus on producing tangible, system-wide learning. Our work supports the design of targeted interventions that are scalable, future-proof, and grounded in operational reality.

We provide tailored support across the full lifecycle of network innovation. Our services include:

- Early-stage idea development and opportunity scoping
- Full proposal development for SIF, NIA, NIC and internal innovation portfolios
- Technical authoring of learning reports, cost-benefit assessments and impact analysis
- Network modelling and feasibility studies to quantify system impacts
- Integration of planning and operational data into usable, consistent frameworks
- Design and testing of digital tools and data pipelines
- Stakeholder engagement, dissemination, and regulatory alignment
- Full end-to-end innovation project delivery according to client specifications, from initial concept through to implementation and closeout.

We specialise in helping clients deliver practical, technically sound projects that produce real-world learning. Our strength lies in translating complex problems into focused innovation trials that reduce risk, unlock insights, and support business-as-usual evolution.

## A Flexible and Evolving Innovation Portfolio

Our innovation portfolio covers a wide range of topic areas across power system planning, operation, and digitalisation. We focus on investigating emerging challenges, validating new technologies, and developing scalable approaches to improve system performance, resilience and flexibility. Our work often explores the intersection between traditional engineering methods and modern data-driven solutions, ensuring that our clients remain agile in a fast-evolving sector.

## Developing Tools and Insights for Smarter Networks

We also work closely with stakeholders to develop fit-for-purpose tools and models that support real-time insights and scenario analysis. From power flow analysis platforms to digital twins, we help clients better visualise and simulate future network states, enabling faster and more informed decisions. Our teams have experience supporting the design of novel planning tools and visualisation systems that feed directly into investment appraisals and operational planning.

## Navigating the Regulatory Landscape

As the regulatory and commercial environment continues to evolve, we provide strategic support to help organisations shape innovation portfolios that respond to new funding streams, industry priorities, and policy developments.

Our strong understanding of regulatory frameworks, including Ofgem's SIF and NIA, positions us to guide clients from idea to delivery.

## Committed to Practical, Scalable Innovation

Ultimately, innovation is not just about developing new ideas: it's about solving the right problems, in the right way, and with the right people. We believe innovation must be practical, scalable, and grounded in reality. Whether we are exploring the future role of grid-edge flexibility, enhancing LV observability, or building the next generation of planning tools, we remain committed to delivering outcomes that support Net Zero and benefit both networks and customers.

## Customer Focused

Our team is extremely customer focused, flexible and efficient. We are able to respond quickly and ultimately to deliver work in compressed timescales, to a high quality.

Our clients range from electricity network operators, regulators and public sector organisations through to private developers, both onshore and offshore, looking to develop projects connecting into the electricity networks.

We understand the specific challenges around offshore wind development, for example relating to the large recent increases in supply chain costs that have been seen across the industry. We therefore understand the importance of thorough cost-benefit analysis, the importance of achieving the best technical solutions and the relationship between other activities such as cables design with the power systems modelling.



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