The Voice of the Networks

Electricity Network Innovation Strategy

March 2020

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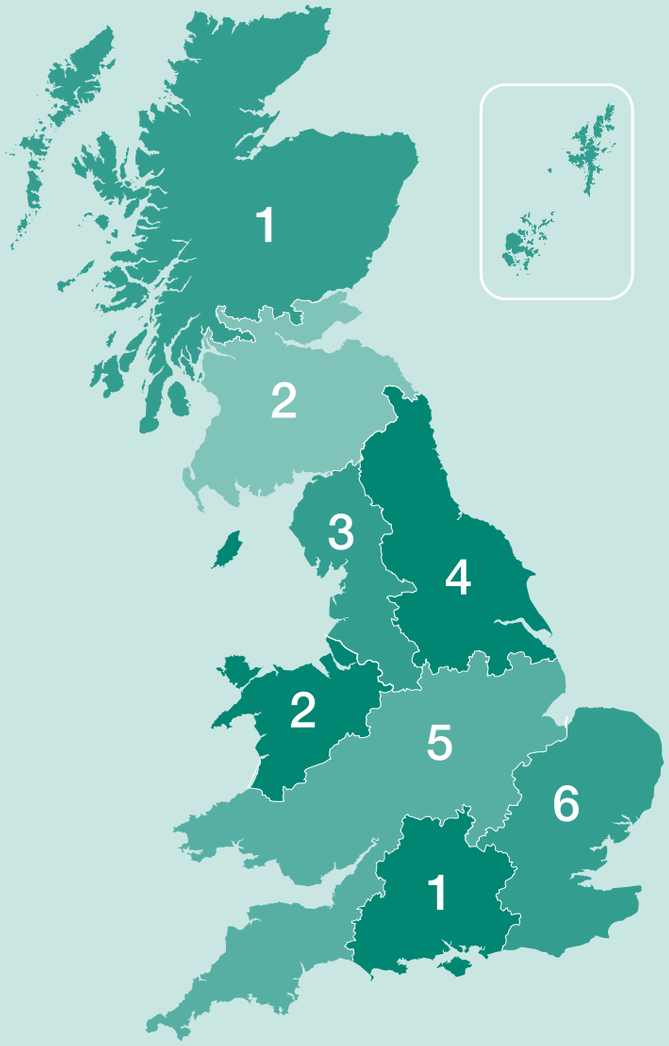

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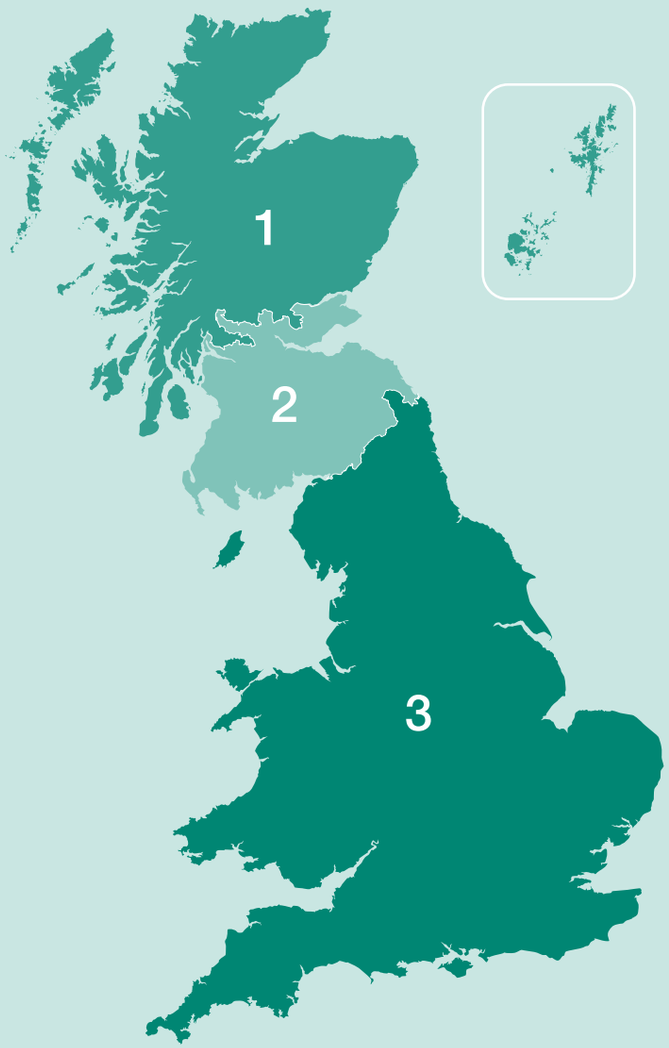


1 Scottish & Southern Electricity Networks
2 SP ENERGY NETWORKS
3 nationalgrid

System operation: nationalgridESO

This Electricity Network Innovation Strategy has been produced by Energy Networks Association (ENA) and the GB Electricity Licensed Network Operators (LNOs). ENA is our voice, representing the 'wires and pipes' transmission and distribution network operators for gas and electricity in the UK and Ireland.

Foreword

We are pleased to present this revised and refreshed Electricity Network Innovation Strategy. This document sets out for you, our stakeholders, what our high-level ambitions and priorities are for network innovation.

Innovation in our energy networks is playing a key role in the transformation of the energy system for a zero carbon future. Innovation projects allow us to better understand how to integrate and roll out new technologies, practices and markets and help to tackle the wider energy challenges we face.

Funding mechanisms, including the Network Innovation Allowance (NIA) and Network Innovation Competition (NIC) administered by Ofgem, are enabling an extensive portfolio of projects that are changing how our energy system works and delivering significant financial, energy security and environmental benefits to customers.

We are working in partnership with each other, with innovators, businesses and local communities to invest in trialling new technologies and business models. We recognise that we cannot solve the complex challenges in the energy system on our own.

ENA is the voice of the networks and brings together all the innovation managers to consider challenges that require innovative solutions, share learning and develop robust processes for collaboration.

We published our first strategy in 2018. It helped us to align our priorities, share thinking and avoid duplicating efforts. But we felt it could go further. We recognise there is still work to be done in joining up with the gas network companies and facilitating whole energy system approaches. Therefore, this revised strategy has shared principles and themes with the Gas Network Innovation Strategy. We are moving towards producing one shared strategy in the future.

We also recognise that there are innovators out there that we haven't engaged with yet. We hope this strategy enables them to better understand our key themes and principles and how to get involved.

David Smith
Chief Executive

Randolph Brazier
Head of Innovation & Development

nationalgrid

nationalgridESO

electricity north west

NORTHERN POWERGRID

Scottish & Southern Electricity Networks

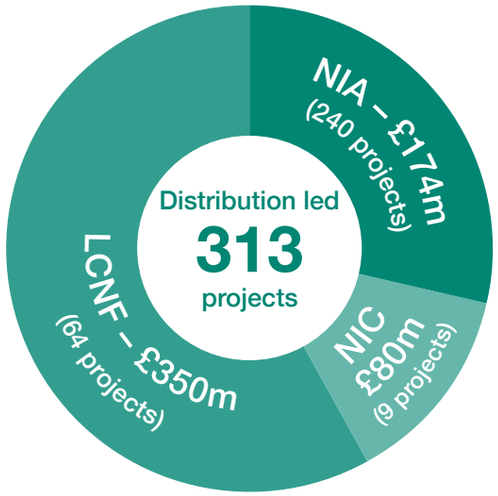
SP ENERGY NETWORKS

UK Power Networks

WESTERN POWER DISTRIBUTION
Serving the Midlands, South West and Wales

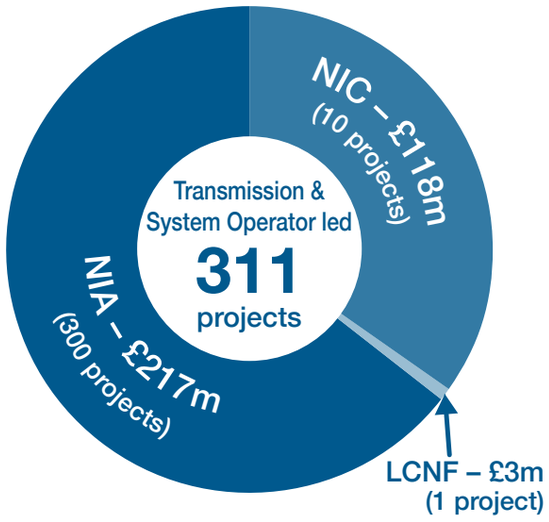
Introduction

Electricity network innovation spend 2008 to 2019



£942m 624 projects

Distribution led	Transmission & System Operator led
£604m	£338m



Innovation projects allow us to understand how to integrate new technologies and practices into our energy networks, benefiting our customers and facilitating our transition to a net zero future.

This revised Electricity Network Innovation Strategy was co-created with our stakeholders (see the engagement process on the right). The strategy sets out the key themes and principles that will guide a joined up approach to innovation by both the electricity and gas networks.

We are building on an extensive innovation portfolio. Since 2008, £942 million has been invested in innovation activities delivering significant benefits for customers.*

The key funding mechanisms we use are the NIA, NIC and previously the Low Carbon Networks Fund (LCNF). However, this strategy looks more widely at how we can join up with wider UK energy innovation programmes.

This strategy sets out how we want to work with you, the innovators, on new solutions that can help us deliver safe, resilient networks that facilitate the net zero transition and meet the needs of our customers.

*This does not include other funding, such as the Innovation Funding Incentive or Innovate UK. Independent research by Pöyry showed that under the previous LCNF regime, electricity network innovation projects alone will deliver £1.7bn of benefits to customers by 2031.

Innovation strategy stakeholder engagement

Expert interviews
(20 interviews)

Identified themes and principles for testing with stakeholders

Online consultation, round table and webinars
(108 participants)

Validation of approach. Modifications to themes and principles

Stakeholder workshops and webinar *(113 participants)*

Addition of one principle and five focus areas per theme

Strategy content finalised

Our strategy

This strategy is centred around our three overarching objectives, which are reflected in five key principles and five network innovation themes.

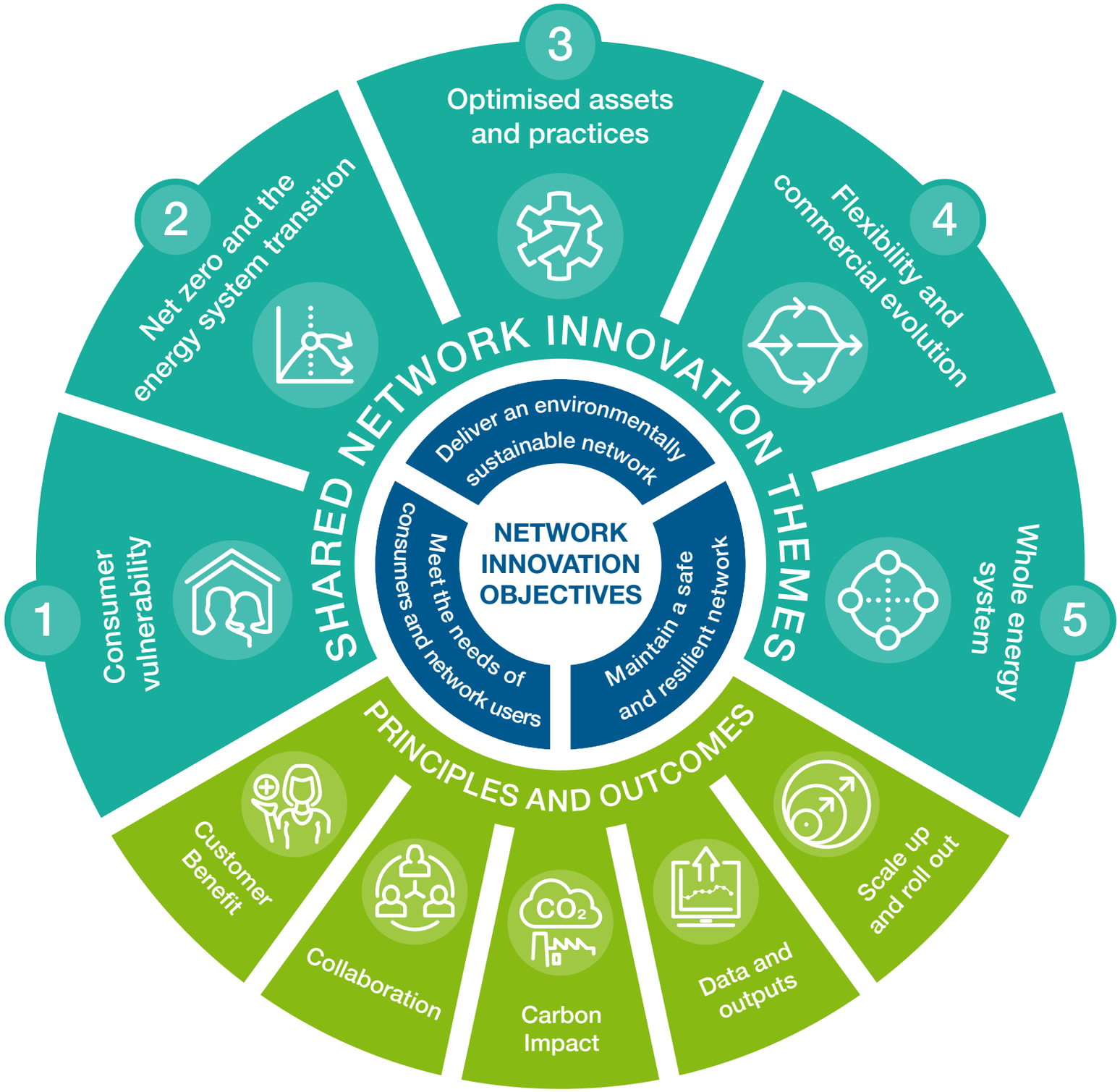
The underlying **principles and outcomes** apply to all innovation activity and will be considered at all stages of innovation projects, from inception through to delivery and dissemination.

The **shared network innovation themes** are the priority innovation areas, which we have identified with the help of our stakeholders. These five themes provide us with a shared strategic direction, help innovators understand how they can work with us and provide a means of categorising and tracking innovation investment. However, it is worth noting that often projects will sit under multiple themes.

Under each theme in this strategy we set out what it means for electricity network innovation, the top five focus areas identified through the stakeholder engagement process and case studies of previous or live projects.

The strategy is deliberately high level. We want to give you, our stakeholders, information on where we need ideas, at the same time as not being prescriptive and closing the door to problems/ solutions that we have not yet considered.

Objectives, themes and principles



How to get involved

We are keen to work with a wide range of innovators. A key purpose of this strategy is to help you to better understand what we are looking for and how to get involved.

The high-level guide below maps out the key stages in getting an innovation project off the ground and indicates which areas of this strategy can help. It also signposts you to further resources and collaboration portals.

1 Principles

Get a sense of how we work by looking at our principles (pages 8-12).

2 Innovation themes

Understand our priority themes for innovation and where your ideas fit in by reading about our innovation themes (pages 14-23).

Regulated price control of networks – Ofgem regulates network activity – including innovation – through the RIIO price control process. The new price control period (RIIO-2) will begin in April 2021 for transmission and April 2023 for distribution, which may mean changes to the scope and governance of our innovation activity.

3 Local or national?

If your idea can be applied anywhere, go through one of the national services (see right).

If it is specific to a transmission, system or local distribution operator, make contact directly.

- Innovation websites
- Innovation strategies
- Events
- Newsletters
- Innovation calls/ competitions.

4 Funding opportunities

Sign up for information about funding opportunities.

5 Develop proposal

Identify partners, develop and submit your project proposal.

Network Innovation Collaboration Portal

- Share information
- Find partners
- Propose new project ideas for all network companies to consider

EIC hub

- Access the latest opport-unities from some member network companies
- Connect with a global community of innovators
- Search for funding and access support resources

Smarter Networks Portal

- Sharing learning
- Collaborate on new projects

Innovation Funding Service

- Online application and collaboration tool
- Information on all active funding competitions

Innovator Support Portal

- Funding finder tool
- Connect with innovators and experts

Principles and outcomes

- Customer benefit
- Collaboration
- Carbon impact
- Data and outputs
- Scale up and roll out

PRINCIPLE

Customer benefit

Customer benefit should be at the centre of all network innovation activity. Benefits will range from efficiency savings and a better customer experience to societal benefits, such as the accelerated decarbonisation of our energy system.

Our customers are everyone who connects to our network or who pays an energy bill. All innovation activity should aim to deliver clear benefits to these customers, in particular:

- Accelerated decarbonisation of our energy system
- Efficiency improvements that reduce network costs, lowering electricity bills for customers
- A safer and more secure energy network
- A more reliable energy supply
- A reduced impact on the environment
- An inclusive approach to participation in the energy transition, with a focus on vulnerable consumers
- A positive impact on our employees and supply chains
- Wider socio-economic benefits, such as job creation and improved public health/ air quality.

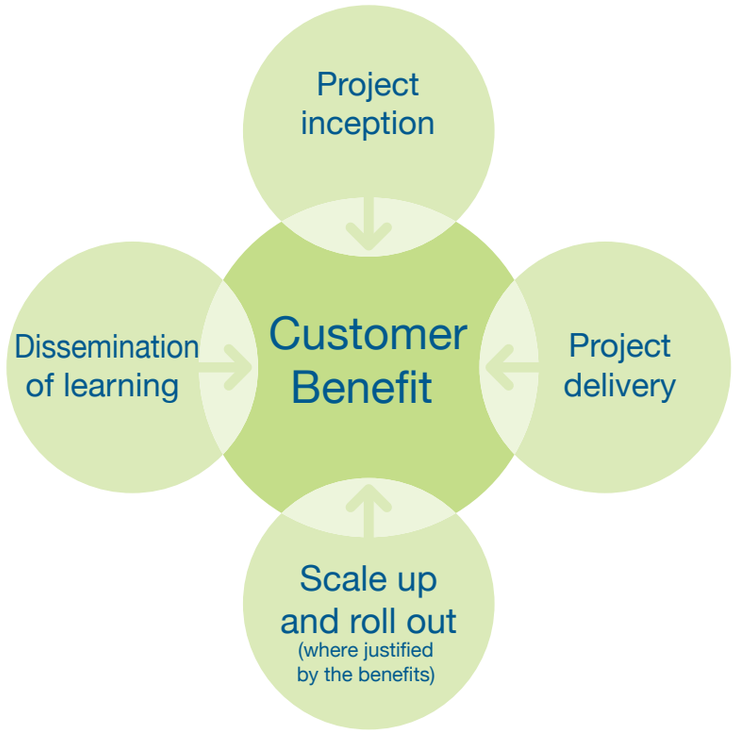
We don't just consider how the outcomes of innovation projects will affect customers, but also how we interact with customers during project delivery.

When customers are directly involved in projects we make sure that we manage their expectations and communicate in a transparent and open way. We are inclusive and consider the harder to reach customers. When customers are indirectly affected by projects, we will minimise disruptions and clearly communicate with them.

We will also explore how innovations can improve customer service whenever possible. This may relate to how we interact with customers, deliver connections or new markets such as local flexibility markets.

We recognise that communities and regions are different and have different needs. Therefore, we each develop our own innovation strategies that reflect the specific needs of customers in our regions.

Customer benefit at the centre



PRINCIPLE

Collaboration

Network innovation activity should provide shared learning, avoid duplication and increase collaboration between network companies and the wider energy sector. Network innovation should also be joined up with wider UK energy innovation programmes.

While each of us has our own strategy for innovation, we strongly believe that gas and electricity and wider industry collaboration is key to ensuring we maximise the value to customers. This is why we have a joined-up strategy and shared principles and themes with the gas networks.

Under ENA, there are a range of initiatives that facilitate collaboration between us as network and system operators. They include:

- **Smarter Networks Portal** – a repository for Ofgem-funded projects. With automatic notification of new projects and key learning. It also shares project registration documents to enable collaboration before project kick off
- **Open Networks Project** – sharing learning and working collaboratively to change how the networks operate to facilitate the transition to a smart, flexible energy system
- **Gas Goes Green Programme** – sharing learning and working collaboratively to deliver net zero gas in a smart, flexible and balanced energy system
- **Low Carbon Technology Working Group** – representatives from the electricity networks meet regularly with industry, BEIS and Ofgem to agree strategies and processes for low carbon technologies that connect to the electricity network
- **Electricity Innovation Managers and Gas Innovation Governance Group** – regular meetings to coordinate innovation activities
- **Annual key showcase and conference events** – such as the Low Carbon Networks & Innovation Conference, Electricity Innovation Forums and the Gas Innovation Showcase.

We recognise the need to collaborate with a wide range of innovators to create better ideas and real-world outcomes. Page 6 of this strategy sets out the main routes to get involved. For example, we work with third party organisations, such as EIC and Innovate UK, to collaborate with thousands of small-to-medium sized enterprises (SMEs).

We also collaborate with other funding programmes that support innovation work such as Innovate UK and BEIS' innovation funds, however, there is the potential to increase and better coordinate this collaboration to ensure our customers benefit.

PRINCIPLE

Carbon impact

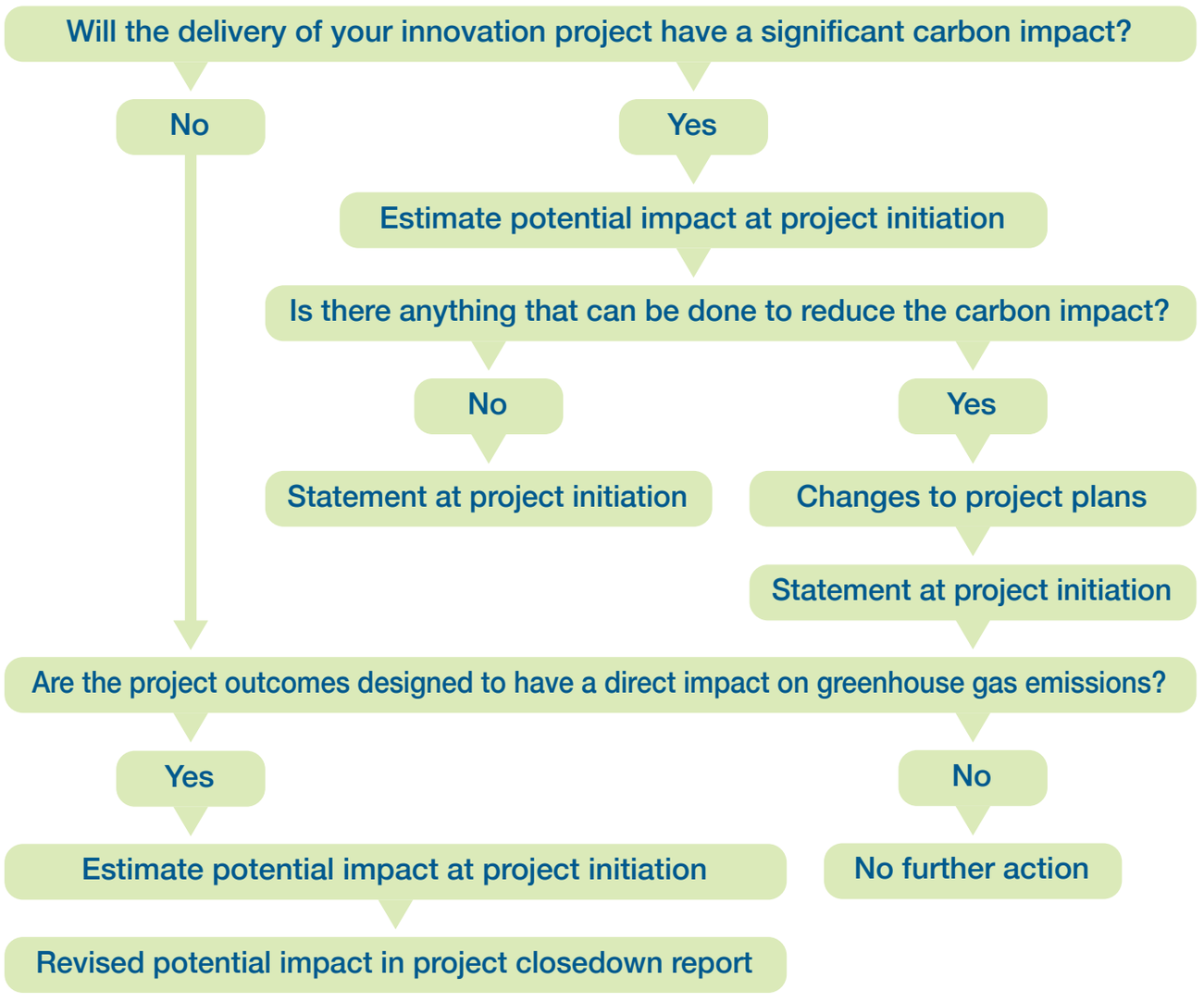
Innovation activities should have a positive impact on achieving the UK's net zero emissions target whenever possible. Therefore, the potential carbon impact of an innovation project should be considered.

Facilitating and accelerating the UK's transition to net zero is a key theme of our innovation strategy, for example, through connecting renewable sources of energy or reducing losses (see pages 16 and 17).

Innovation projects developing and implementing solutions to other themes in this strategy will also have an impact on carbon emissions.

Network companies already consider and aim to reduce the environmental impacts of all their activities, including innovation. In many cases the carbon impacts of innovation projects may be low, for example, innovations in cyber security, safety and customer service. Where carbon impacts of innovation projects are potentially significant, network companies will consider whether there are ways of avoiding or reducing emissions, without compromising the objectives of the project.

High level carbon impact assessment for innovation projects



PRINCIPLE

Data and outputs

The outputs of network innovation activity should be made available to all interested parties in a consistent and accessible format.

All network innovation projects should, where possible, make the following available and accessible:

- Key project outcomes and learning from undertaking the project
- An overview of the key outputs and results from the project
- Project datasets, data tables and supporting information (such as method statements, registers or process diagrams)
- Key qualitative and quantitative information that may be of use to future innovation projects.

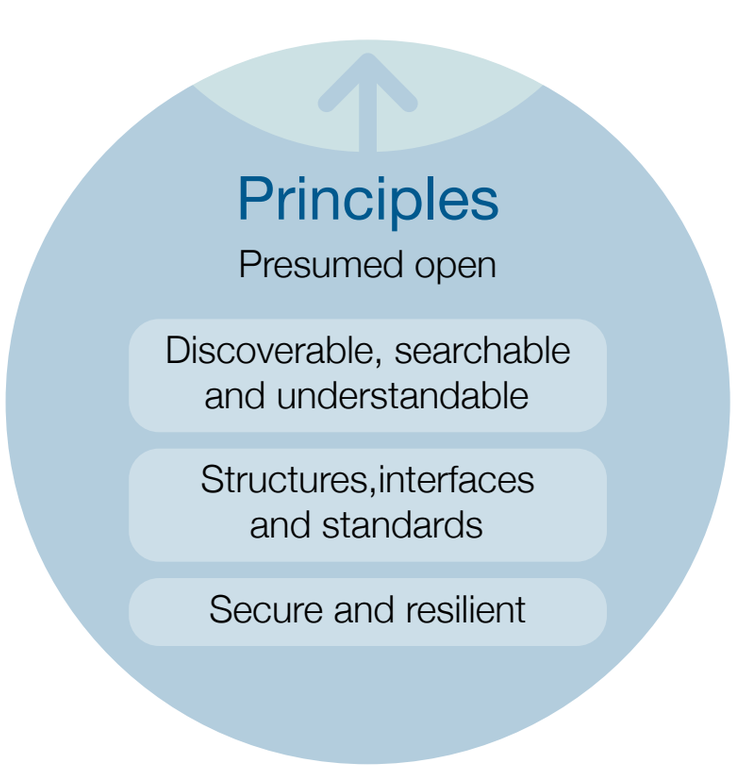
A successful innovation project will provide an opportunity to further develop or implement an idea, technology or process through to business as usual.

The outputs of an innovation project, as well as the data and information generated, can also be valuable for future learning, follow-up projects or new ideas. Making innovation project data and insights available will help attract a wider range of innovators and encourage spin-off ideas.

Therefore, we take the view that data from innovation activities should be 'presumed open', as set out by the Energy Data Taskforce. It should also be 'discoverable, searchable and understandable', with common 'structures, interfaces and standards' and be 'secure and resilient'.

Outputs from innovation projects can all be found on the Smarter Networks Portal and on individual network company websites. We will be revising the Smarter Networks Portal in 2020 and considering how we can improve the service it provides.

Energy Data Taskforce: Maximising the value of data



PRINCIPLE

Scale up and roll out

A key objective of network innovation activity should be to deliver transformational change, taking viable initiatives forward to business as usual deployment and to identify methods to scale up and roll out new practices, processes and technologies.

Innovation is about trialling, testing and verifying ideas. It is also about developing new approaches, practices and processes. Proven innovations and successful or impactful projects should be taken forward to wider implementation across the sector as cost effectively as possible. This is how benefits for customers are maximised.

We are committed to ensuring that new innovations are adopted to business as usual. We do this in several ways:

- We involve key staff in the innovation process before transitioning to business as usual to lead the adoption of new approaches
- We have created specific roles or teams to prepare for and facilitate future change
- We ensure that engineering and regulatory standards, industry codes and policies are updated (or created) as a result of innovation projects
- We collaborate between network companies to facilitate the deployment of solutions at scale.

To ensure that we are delivering value for money to our customers and wider stakeholders, we continuously improve our processes to make sure that we get maximum value from innovation deployment.

In preparation for RIIO-2, we are working with the gas networks to develop a measurement framework that enables consistent reporting for network innovation. This is designed to benefit customers and the wider industry by increasing transparency on the outcomes of network innovation projects, and what they have delivered.

Under the proposed benefits framework, we will assess the outputs of our innovation projects and the potential they have to deliver benefits for customers. This will consider benefits for the organisation proposing the project, other network operators and wider stakeholders. We propose to report innovation benefits using the new framework for RIIO-2, the next price control period starting 1 April 2021 for system operation, gas networks and electricity transmission, and for electricity distribution from 1 April 2023.

Benefits Framework development

Summer 2020

- Finalising Benefits Framework

Autumn 2020

- RIIO-2 gas and transmission determinations
- ENA revising Smarter Networks Portal

Autumn 2021

- Implement Benefits Framework
- Implement Smarter Networks Portal changes

Shared network innovation themes

- Consumer vulnerability
- Net zero and the energy transition
- Optimised assets and practices
- Flexibility and commercial evolution
- Whole energy system

THEME 01

Consumer vulnerability

Exploring how best to support the needs of consumers in vulnerable circumstances today and in the future, ensuring that everyone can experience the benefits of the energy transition and any adverse effects of change is minimised.

Vulnerable consumers are those significantly less able to protect their interests in the energy market and/or are more likely to suffer detriment. Vulnerability can take different forms and can change over time. Causes include, but are not limited to:

- Financial
- Technological
- Locational
- Demographical
- Health and wellbeing.

It is often those consumers in vulnerable circumstances that are most likely to find it difficult to engage with changing technologies and benefits. There is a risk that the energy transition could put them at a greater disadvantage.

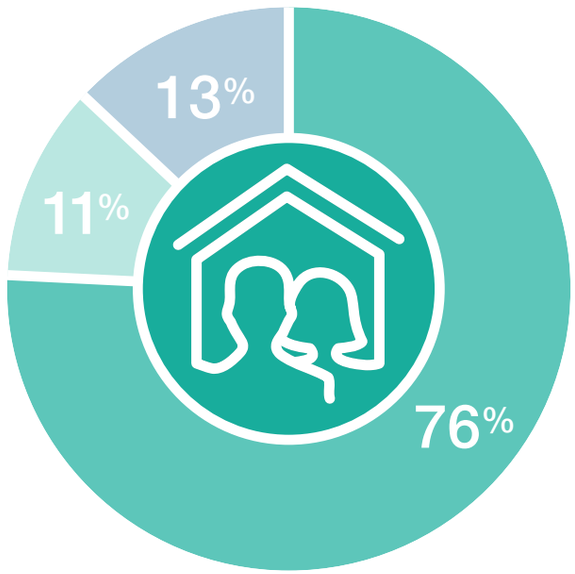
As the Distribution Network Operators (DNOs) become Distribution System Operators (DSOs), relationships with consumers are likely to change. There will be greater opportunities for us to engage directly, for example through flexibility markets, and we want these markets to be inclusive and accessible.

Innovation allows us to explore how best to support the needs of consumers in vulnerable circumstances and to take a more inclusive approach. This could take the form of new services, data and management practices, technologies or partnerships.

THEME 01

Consumer vulnerability

Stakeholder feedback



Is consumer vulnerability a key theme for network innovation?

Yes No Don't know

How important would you rate this theme out of 5?

5 focus areas

These are the five focus areas that stakeholders have identified as the near-term priorities:

1. Understand and remove barriers to adopting new technologies and services for vulnerable consumers
2. Facilitate building resilient local communities
3. Support the fuel poor and improve affordability for consumers
4. Explore how to reduce the financial impact of net zero on vulnerable consumers
5. Improve engagement and visibility between vulnerable consumers and the networks.

…ensuring that everyone can experience the benefits of the energy transition.

Case studies

Social CMZ

Scottish and Southern Electricity Networks

This project aims to provide an accessible and visible route for communities to engage and offer flexibility services. Where there is constraint on the system, SSEN is working with National Energy Action and Energy Action Scotland to explore how community groups could provide a solution, avoiding network reinforcement.

Urban Energy Club

UK Power Networks

Urban Energy Club will test how the virtual allocation of shared assets can support a more inclusive approach of procuring network flexibility from domestic customers living in blocks of flats.

THEME 02

Net zero and the energy transition

Facilitating and accelerating the UK's transition to net zero greenhouse gas emissions before 2050.

The transition to net zero greenhouse gas emissions will require:

- Even greater levels of low and zero carbon electricity generation
- Increased electrification of transport and heat
- An increase in flexibility, for example through smart technologies and services
- An increase in energy efficiency and changes in demand patterns
- New ways of understanding and managing system stability
- A whole energy system approach.

This creates both opportunities and challenges for us. Having more low carbon technologies and distributed generation connected to our networks means that we need to be much smarter in how we manage them. We will need new ways of accessing flexibility to support the variable output from renewables, as well as improving our practices of active network management and grid interconnection.

Changes in demand patterns from the electrification of heat and transport alongside increases in energy efficiency also need to be managed in smart and cost-effective ways.

We need to develop commercial models and technical solutions that will facilitate customer choice in a cost-effective way, while at the same time managing the impact on the networks. We believe that in order to serve our customers' evolving needs, we need increased engagement and communication, as well as transparency and efficiency in our plans and priorities.

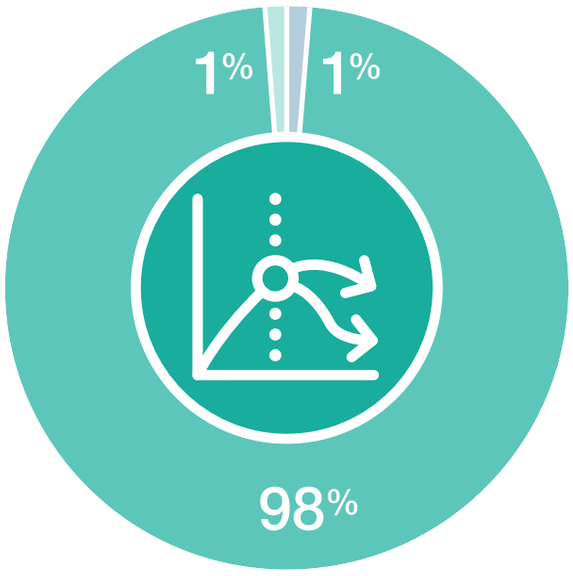
We also recognise the importance of cross-vector coordination and planning to efficiently manage the interactions between electricity, gas, heat, transport and waste in the energy transition.

We need to be ready to facilitate the transition to net zero and accelerate it wherever possible.

THEME 02

Net zero and the energy transition

Stakeholder feedback



Is net zero and the energy system transition a key theme for network innovation?

Yes No Don't know

How important would you rate this theme out of 5?

5 focus areas

These are the five research areas that stakeholders have identified as the near-term priorities:

1. Facilitate the adoption of flexibility and smart systems
2. Facilitate and enable the electrification of heat and transport
3. Facilitate the efficient connection of low and zero carbon electricity generation
4. Understand the operational impact of long duration reserve services on the network
5. Contribute to a UK-wide methodology for calculating the cost of carbon.

Facilitating and accelerating the UK's transition to net zero greenhouse gas emissions before 2050.

Case studies

Smart Street

Electricity North West

Smart Street trialled an integrated system comprising advanced optimisation software and network assets to simultaneously manage power flow and voltage on the High Voltage (HV) and low voltage (LV) networks in real time to release additional capacity for the connection of low carbon technologies.

Wide Area Monitoring, Protection & Control (WAMPAC)

SP Energy Networks

SP Energy Networks has worked over a series of projects to improve system stability via Wide Area Monitoring to facilitate the connection of low carbon generation and improve network reliability. In 2014, project **VISOR** saw the use of Phasor Measurement Units (PMUs) to identify and manage sub-synchronous oscillations, then in 2016 through project **MIGRATE**, delivered solutions to monitor and forecast Area Inertia and System Strength.

THEME 03

Optimised assets and practices

Developing and implementing industry leading techniques for optimising assets and practices for energy networks.

Optimising assets and practices includes improving our:

- Capability
- Resilience
- Reliability
- Safety
- Security
- Health
- Environmental impact
- Digitalisation strategy.

Many of the activities in this area are considered business as usual, however innovation will accelerate improvements and enable more unconventional approaches to be tested.

Continuous improvement is required to ensure we are delivering value for money for our customers and can proactively respond to changes in the energy system.

Rapid decarbonisation, changing electricity demand and generation patterns, digitalisation, changing weather patterns, an aging workforce and managing new security threats are just some of the issues we are responding to.

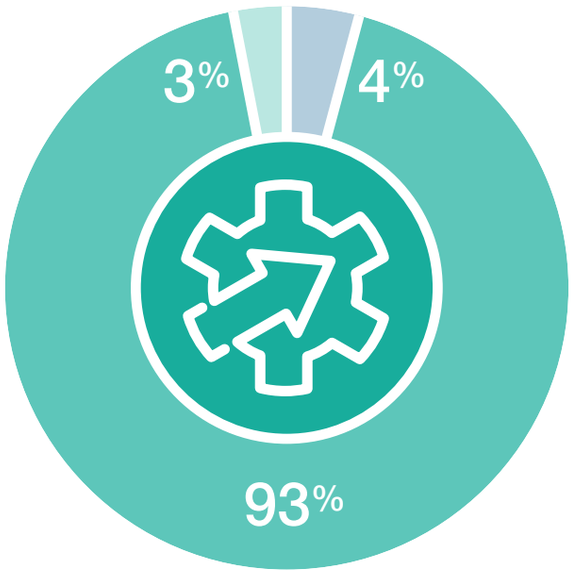
Investing in our infrastructure, preparing our networks for change and adapting our practices and processes to meet these changes is vital if we are to continue to deliver an effective electricity network and service.

Network innovation enables us to test and improve new technologies, optimise our operational and management practices and focus on the people that keep our networks safe, secure and reliable every day.

THEME 03

Optimised assets and practices

Stakeholder feedback



Is optimised assets and practices a key theme for network innovation?

Yes No Don't know

How important would you rate this theme out of 5?

5 focus areas

These are the five focus areas that stakeholders have identified as the near-term priorities:

1. Improve the visibility of customers and their behaviour
2. Enable digitalisation for network and system optimisation
3. Reduce and mitigate unplanned outages, supply interruptions and wider disruptions
4. Minimise the impact of networks on the environment
5. Ensure future skill requirements and workforce resilience.

…industry leading techniques for optimising assets and practices for energy networks.

Case studies

Distributed ReStart

National Grid ESO (Electricity System Operator) and SP Energy Networks

Distributed ReStart explores how Distributed Energy Resources (DER) in Great Britain can be used to restore power in the highly unlikely event of a total or partial blackout of the National Electricity Transmission System.

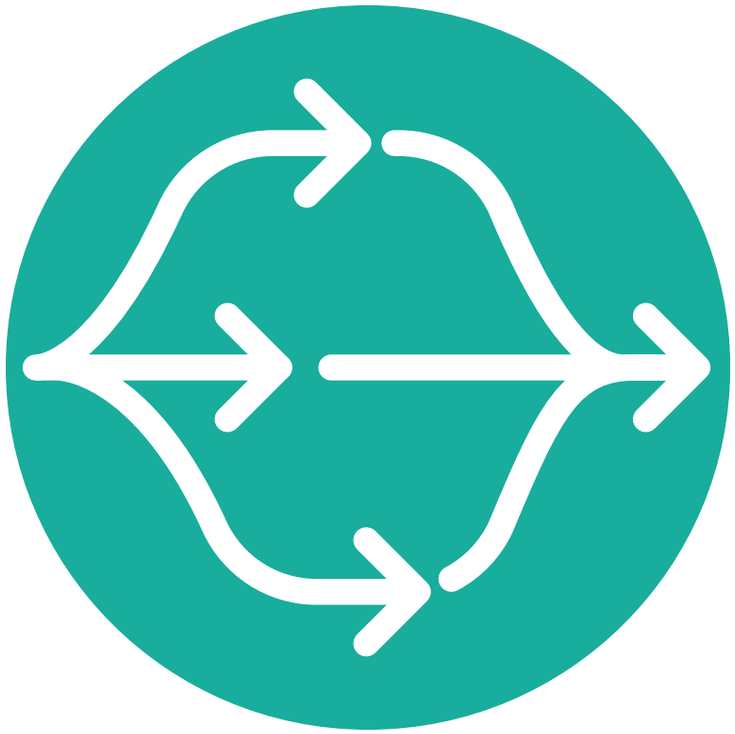
Virtual Site Acceptance Testing & Training (VSATT)

National Grid Electricity Transmission

This project aims to develop and demonstrate the first phase of a digital substation. This involves developing a test platform, simulation and modelling of interoperability and performance testing for substations and how they interface with the electricity system.

THEME 04

Flexibility and commercial evolution



Developing and testing innovative solutions to increase the flexibility, transparency and efficiency of the energy system, enabling information to be more open and networks to be more responsive to change.

The electricity networks are going through a period of rapid change and we need to be able to respond quickly and efficiently. Increasing the flexibility of our networks to cope with peaks in generation or demand will optimise reinforcement costs.

More and more distributed energy resource (DER) is becoming flexible, which means the ability to control or schedule demand and/or generation. Flexible technology can include batteries, electric vehicles (EVs) and Demand Side Response (DSR). These technologies can provide 'flexibility services' to us to help solve congestion issues on our networks and release additional capacity, which then allows connection of more low carbon technologies.

Flexibility markets are one of the evolving commercial arrangements that enable customers to interact with us and sell flexibility services. Other commercial arrangements, including linking with national energy markets, will need to be explored to ensure customers can interact with us to support the operation of a smart network.

We have developed six commitments for delivering flexibility services. We will:

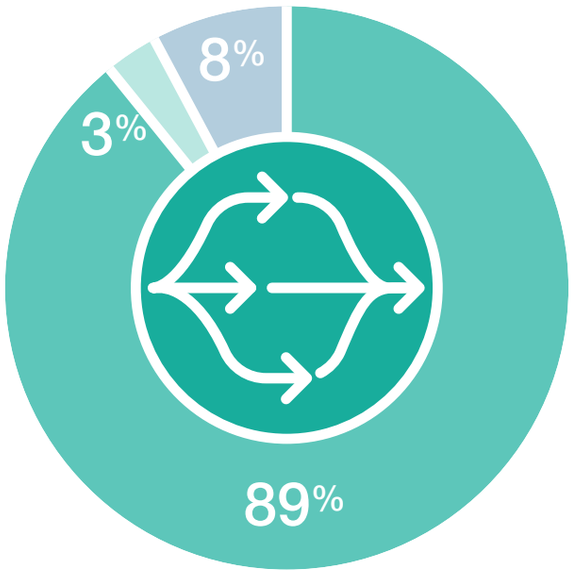
- Champion a level playing field
- Ensure visibility and accessibility
- Conduct procurement in an open and transparent manner
- Provide clarity on the dispatch of services
- Provide regular, consistent and transparent reporting
- Work together towards whole energy system outcomes.

New commercial models may emerge from the digitalisation of the energy system and increase in data availability, for example from smart meters. We will work with the wider industry to identify opportunities to increase the efficiency of network operations.

THEME 04

Flexibility and commercial evolution

Stakeholder feedback



Is flexibility and commercial evolution a key theme for network innovation?

Yes No Don't know

How important would you rate this theme out of 5?

5 focus areas

These are the five focus areas that stakeholders have identified as the near-term priorities:

1. Enable domestic flexibility, local energy markets, EVs and smart charging
2. Trial and implement innovative arrangements to support network management and flexibility
3. Maximise the opportunities of smart meters, data and network charging reforms
4. Identify regulatory barriers and make recommendations for reform
5. Develop flexible connection arrange-ments and mechanisms to inform how customers generate and use electricity.

…increasing the flexibility, transparency and efficiency of the energy system.

Case studies

Project ENTIRE

Western Power Distribution

The project sought to identify and address many of the key challenges a DNO is presented with as demand side response and other commercial service capabilities develop, alongside traditional engineering and asset management roles of the DNO. The project created a roadmap for WPD's regions, as well as other DNOs, to assist development of a commercial service capability and deliver increased value to their customers.

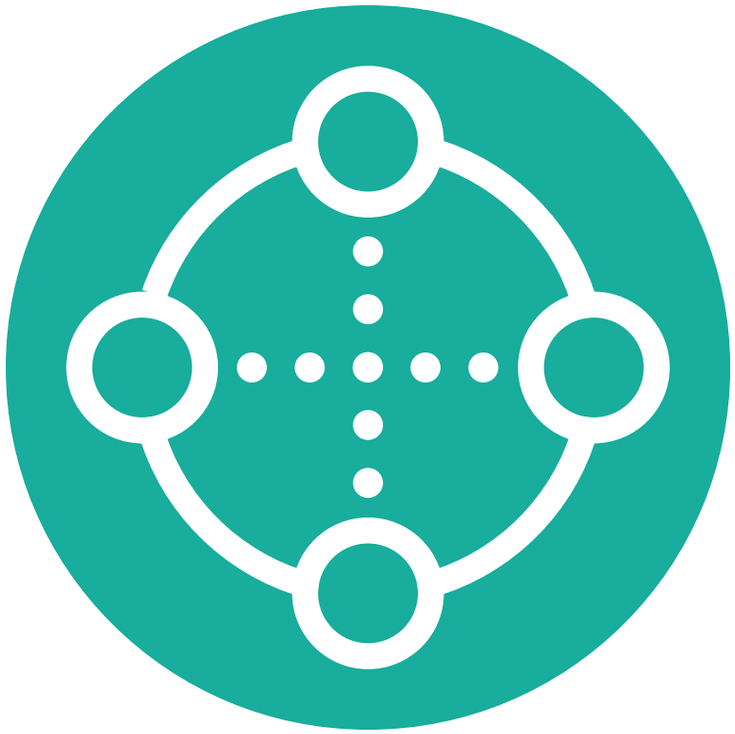
Activating Community Engagement (ACE)

Northern Powergrid

The ACE project investigated gamification as a way to drive consumer engagement with demandside response. The project addressed the challenges of engagement by creating fun and rewarding incentives through the GenGame app.

THEME 05

Whole energy system



Enabling joined up and efficient approaches across multiple aspects of the energy system around planning, forecasting, design, construction, operation, maintenance and data.

A whole energy system approach requires us to look beyond our own networks and develop our understanding of how we interact with and impact on the wider energy system.

There are multiple aspects to the energy system and different ways of applying whole energy system thinking. These can include thinking across:

- Electricity and gas networks
- Transmission and distribution networks
- Transport, buildings, power and industry sectors
- Water, waste and telecommunications utilities
- Networks, generators and consumers
- Local energy systems, cities and regions.

Decisions and actions taken in one part of the system increasingly have impacts for the wider system. Therefore we need to coordinate around planning, forecasting, design, construction, operation, maintenance and data to identify potential problems and the best and most cost-effective solutions.

Rapid decarbonisation of our energy system will change the demand and generation patterns on both the gas and electricity networks.

We need to better understand the interaction between gas and electricity networks through joint forecasting and planning. It is also important that we work with cities and regional bodies to reflect local needs and differences in approach.

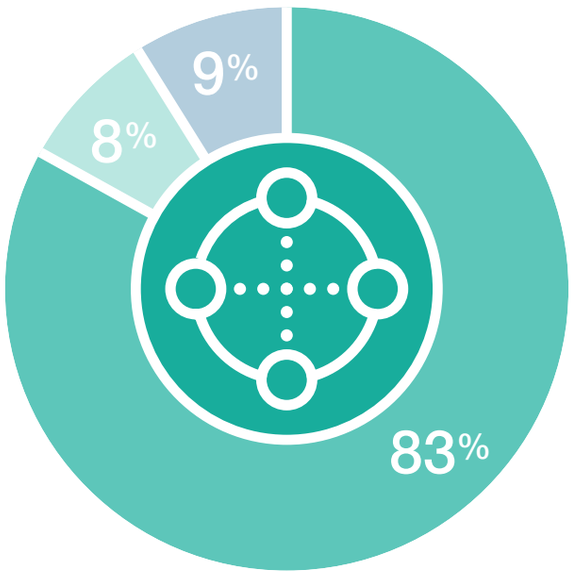
The increase in use of flexibility resources must also be optimised on a system-wide basis, which means greater coordination between distribution and transmission networks.

A big part of a whole energy system approach is transparency and openness. We understand that by sharing more operational information, data, investment plans and innovation ideas, we can enable greater coordination as well as new innovations to come forward.

THEME 05

Whole energy system

Stakeholder feedback



Is whole energy system a key theme for network innovation?

Yes No Don't know

How important would you rate this theme out of 5?

5 focus areas

These are the five research areas that stakeholder have identified as the near-term priorities:

1. Collaborate on enabling the growth and operation of emerging low carbon solutions
2. Develop whole system coordinated cost benefit analysis
3. Join up approaches to regional network planning and forecasting
4. Improve access to and visibility of energy network data
5. Coordinate the operation of a whole energy system.

…joined up and efficient approaches across multiple aspects of the energy system.

Case studies

Zero 2050 South Wales

National Grid Gas Transmission, National Grid Electricity Transmission, Wales & West Utilities and Western Power Distribution

Zero 2050 aims to develop plausible, optimised decarbonisation pathways for the whole energy system in South Wales. This collaborative project includes all representatives from electricity and gas transmission and distribution networks. The project covers bottom-up demand scenario modelling for the South Wales region using multi-vector analysis. It will develop the net-zero pathways, while considering the regional socioeconomic aspects.

Swindon Green City Vision

Wales & West Utilities, Scottish and Southern Electricity Networks

Green City was a joint project between gas and electricity networks to explore how to invest efficiently across different energy networks to support decarbonisation while keeping costs down for customers.

Next steps

In the next two years we are committed to open up network innovation to a wider range of innovators who can bring new skills and thinking to transforming the energy system.

We asked stakeholders what we could do to engage companies and people in network innovation and received a list of ideas, including:

- Sharing information at events
- Producing a guide to network innovation
- Liaising directly with potential innovators
- Using trade associations and other umbrella organisations to share information
- Running workshops, deep dives and hackathons
- Reporting on deployment of successful ideas
- Improving consistency in application processes between network companies
- Producing webinars to share learning
- Better use of social media for latest updates.

We have taken on board the feedback and will be reviewing our engagement channels, both through ENA and within our individual companies.

Our commitments

Between 2020 and 2022, we are committed to providing guidance and information around how to engage with network innovation, by:

1. Reviewing our engagement methods and channels
2. Hosting the annual dissemination conference
3. Updating the Smarter Networks Portal and the Network Innovation Collaboration Portal
4. Issuing a joint call for proposals for the Network Innovation Competition (NIC)
5. Reporting on network innovation benefits.

We will review and update this strategy again in 2022. At that stage we will check with you, our stakeholders, that the principles and innovation themes are the right ones. We will also work towards combining the gas and electricity innovation strategies to reflect a more holistic, whole energy system approach to innovation.

If you have any questions or would like to discuss the innovation strategy in more detail, please get in touch: innovation@energynetworks.org

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