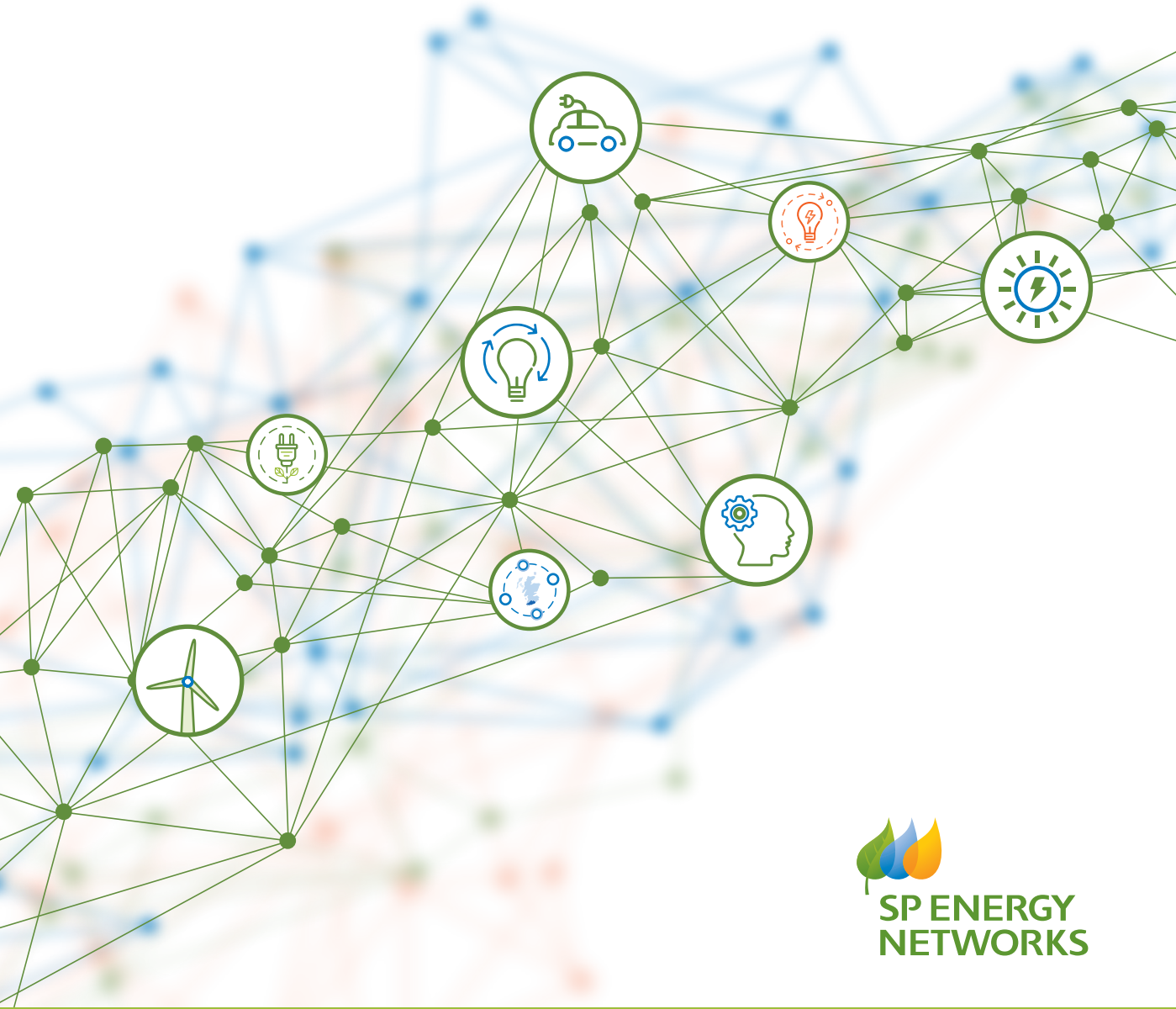
Electricity Distribution Network

INNOVATION

Strategy 2018



SP ENERGY NETWORKS

Contents Page

1 | Foreword

We are leading the way on the issues that really matter.

Innovation is at the core of what we do in SP Energy Networks. We have the ambition and capability to lead the industry by innovating in the best interests of our customers and wider stakeholders to reduce costs and facilitate the transition to a low carbon economy whilst continuing to improve customer service, security of supply and network performance. Our innovation focus remains firmly centred on our customers and stakeholders, who shape both our Innovation Strategy and innovation project portfolio.

It is clear the world is changing, the energy sector is evolving at pace. The old centralised energy systems built last century are transforming into new flexible, sustainable and localised energy systems. In times of change the need to innovate to meet the challenges of today and tomorrow becomes increasingly important and it is our objective to innovate to ensure that the needs of our customers are served whilst ensuring that future challenges can be addressed. Fast, flexible innovation is therefore an essential tool in weathering uncertainty in the political and energy arenas.

The UK energy sector has gone beyond any other country with its low carbon agenda. The effective and efficient transformation has only been possible through the innovation and skills of the electricity networks sector. Over the last decade the industry and SP Energy Networks have taken great strides towards addressing current and future network challenges. From playing a leading role within the Energy Network Association's Open Networks project and paving the way towards a Distribution System Operator model, to delivering globally innovative projects, we continue to push the boundaries of innovation. All to ensure that our customers can benefit from a network which is now more reliable, resilient and flexible than at any point in history and ideally placed to meet the future customer demands.

As we look towards the next decade and beyond, new challenges will present themselves, from the increasing uptake of electric vehicles to a renewed focus on the decarbonisation of heat. We are fully committed to meeting these challenges and will seek to engage positively with Government, Ofgem, other network operators and our key stakeholders to deliver cost effective solutions which will deliver real benefits for our customers.

This strategy document describes the opportunities and challenges we face both as a network operator and an industry. It outlines how we plan to innovate to address these challenges, ensuring the safety, security and sustainability of the Distribution Network for the customers that we serve.

Scott Mathieson
Director of Network Planning & Regulation

2 | Executive Summary

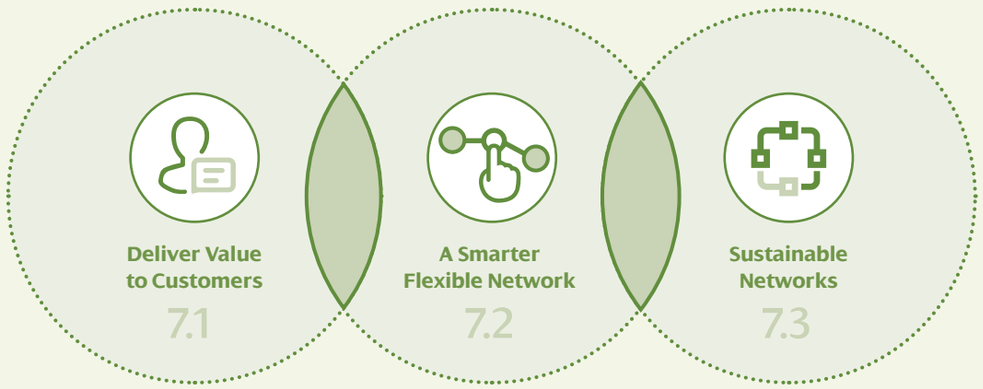
SP Energy Networks is becoming the Utility of the Future.

Why we Innovate
The UK Energy Landscape is evolving at pace as the way we use, generate and distribute energy is rapidly changing. These changes mean we have to look at new innovative solutions to ensure that we can continue to deliver value to customers whilst ensuring that costs are fair and equitable for all. We stand ready to facilitate the Government's low carbon aspirations and are innovating to ensure that the smart networks of the future are flexible, resilient and accessible to all.

This document outlines the changing energy landscape we are faced with and what our future networks will look like. It describes how we plan to innovate to meet the challenges and deliver benefits to customers, and details the processes we intend to follow to ensure that we spend customers' money in the most efficient and effective manner.

Our Priority Areas

This strategy outlines how we will prioritise our innovation activities to ensure that our customers benefit from improved levels of service, whilst ensuring the network is flexible and resilient to changing future requirements. It outlines our three core priority areas, developed in conjunction with stakeholders, and goes on to highlight the opportunities and challenges we aim to overcome.



These areas emphasise our dedication to become the utility of the future, providing outstanding customer service, security of electricity supply and efficient performance at the lowest cost.

Opportunities and Challenges

Within each priority area, we highlight the opportunities and challenges that our stakeholders have told us should be the focus of our attention over the remainder of this price control period through until 2030.

We outline how interested parties can get involved through different platforms and help develop our Innovation Strategy. We will continue to engage with stakeholders and communities to ensure our Innovation Strategy is developing in accordance with our customers changing needs.

Process and Governance

The strategy goes on to describe how we intend to deliver innovation and ensure that it continues to deliver value for stakeholders. We describe our robust process for the inception, creation and delivery of innovation projects and our strategies for Business as Usual adoption and benefits tracking.

3 | Who are we?

We are **SP Energy Networks**. As a Distribution and Transmission Network Operator we keep electricity flowing to homes and businesses throughout Central and Southern Scotland, North Wales, Merseyside, Cheshire and North Shropshire.

We do this through the network of Overhead Lines and Underground Cables which we own and maintain. No matter who you pay your bill to, we're the people to contact if you have a power cut, need a new or upgraded power connection or spot an issue with our equipment.

Our three regulated electricity businesses are:

SP Transmission PLC (SPT)

SP Distribution PLC (SPD)

and SP Manweb PLC (SPM)

Our aim is to deliver a safe and reliable electricity supply **24 hours a day, 365 days a year** whilst providing exceptional value for money.

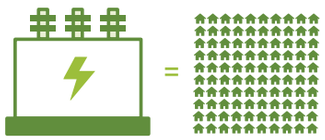
35p per day

For a domestic customer the average cost is just 35p per day, much less than a 2nd Class postage stamp, a coffee shop latte, or a typical domestic broadband service.

We take electricity generated from wind farms, power stations, and other utilities, reduce it to the low voltage needed for homes and transport it through our vast network.

Our distribution network has

30,000
substations;



Supplying
3.52m customers

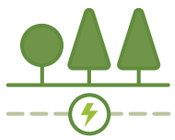
40,000km
of overhead lines

That's enough to wrap once around the world.

and

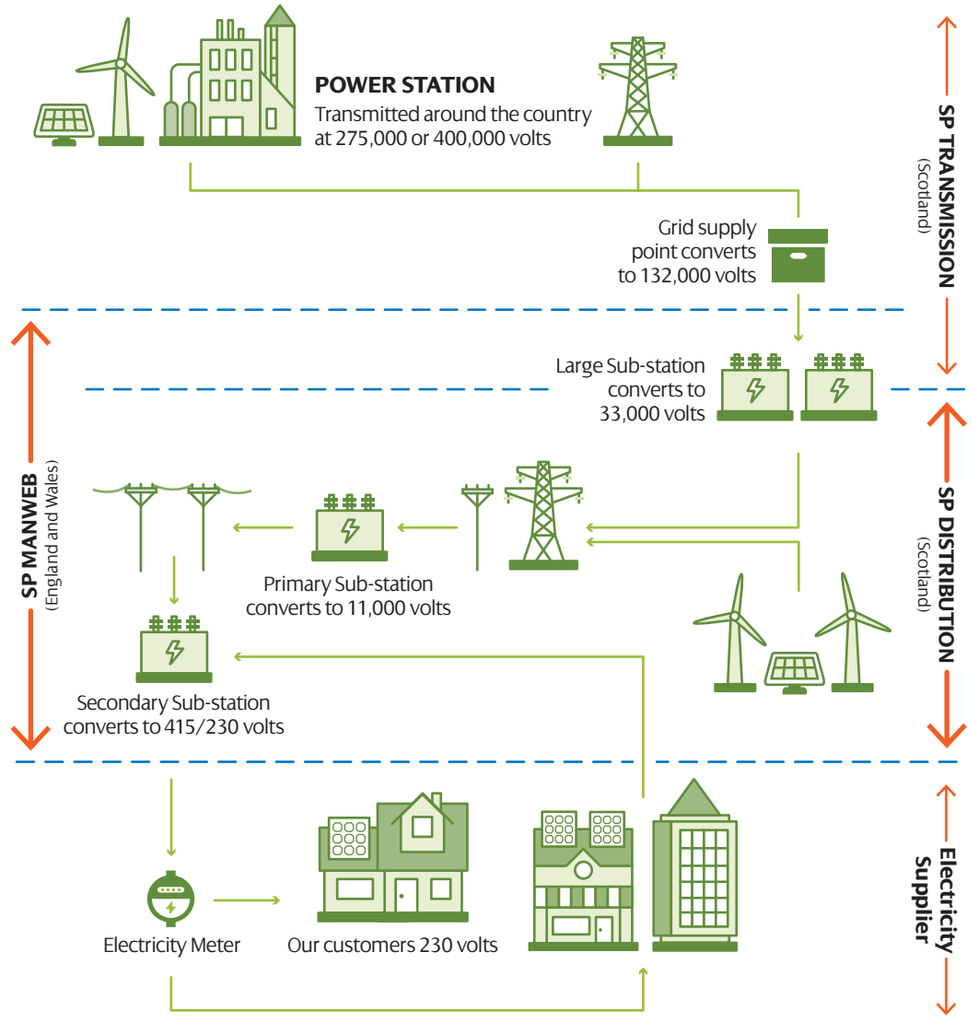
65,000km
of underground cables.

All to keep your electricity flowing.



In the UK, we are a leading Distribution Network Operator (DNO) in distributing renewable energy with a strong focus on creating a sustainable network. We have connected around 7GW of renewable generation to our networks with more connected on a daily basis.

Between 2013 and 2023, we are investing £7bn into our network to improve performance, ensure security of energy supply and facilitate the connection of low carbon technologies.



4 | Introduction: Welcome to SP Energy Networks Distribution Innovation Strategy

> *Our aim is to illustrate to you how we have put innovation at the heart of our business to lead the transition of UK networks to meet the existing and future needs of all customers. It is important that the network of the future provides both the flexibility to enable customers and communities to fully benefit from local energy resources, and the reliability to support an increasingly electricity-dependant society"*
>
> Frank Mitchell | SP Energy Networks CEO

Our Innovation Strategy is focused on ensuring our customers and stakeholders are at the heart of what we do as we become the utility of the future.

We believe in the power of innovation to enhance all aspects of our business and to deliver benefits to our customers. Delivery of our innovation strategy will help us meet the evolving needs of our customers and stakeholders.

Our Innovation Strategy serves multiple purposes. It will:

- Outline our vision to pioneer and deliver a flexible, sustainable and efficient network.
- Serve as a roadmap to align and coordinate our activities to ensure our vision is fulfilled.
- Foster collaboration with our stakeholders by providing clarity and transparency on our key areas of focus for innovation.
- Outline our principles on why, when and how we innovate so our strategy delivers value to customers.

What is Innovation to us?

To us, innovation is doing things differently, developing new solutions and advancing ideas to deliver benefits for the customers we serve. Innovation provides novel options to enhance all aspects of our business and improve the service we provide.

Our innovation covers several aspects:

Technological
The engineering of new devices and systems.
Commercial
The development of new arrangements with customers and suppliers.
Operational and Process driven
The development of new practices.

Why we Innovate?

Providing a reliable supply of electricity to homes and businesses is our priority. That's why we're committed to delivering our shared vision for the network. We have an important part to play in enabling greater adoption of low carbon technologies and innovation is key to ensuring we can overcome the challenges presented.

Our Innovation Strategy...

Think Big
Think in a "big-picture" way initially to ensure that larger trends are not missed and that they inform even minor changes.

Start Small
Find small pilot projects to test innovations on a limited scale that can be readily assessed and the potential benefits measured.

Scale Fast
Move as quickly as possible once an innovation has proven itself and make sure that the changes needed to maximise benefits are embedded into our business.

Awarded

Our Innovation Projects are recognised as world leading with Ofgem awarding funding through the **Network Innovation Competition (NIC)** mechanism.

We are the only Distribution Network Operator to have successfully secure awards through the **'Innovation Roll-out Mechanism'** so we can continue to innovate our network for the move to a low carbon economy.

Collaboration
We recognise the importance of sharing our knowledge on innovation developments to make sure others can benefit from our learning, and will continue to collaborate with other UK network companies to ensure that all customers benefit from customer funded innovation trials. We have a strong track record of converting innovation trials into practical applications that bring benefits to customers and in making our innovation spend go further by collaborating with others.

5 | Our Changing Energy Landscape

The global community must meet the challenges and opportunities of taking action on climate change.

The UK played a central role in securing the 2015 Paris Agreement which builds upon existing UK legislation that targets a CO_2 reduction on 1990 CO_2 levels by 50% ahead of 2030 and 80% by 2050. Within the Paris Agreement, 195 countries have made the commitment to work collectively to combat climate change and adapt to its effects. From the international agreement there have been significant changes to carbon reduction targets. The UK has joined fellow international Governments by setting ambitious targets to accelerate this journey.

One of the key challenges of addressing climate change is the decarbonisation of the world's energy supply chain, whilst ensuring it remains reliable and affordable to all. For this the Government and consumers of energy within the UK are expecting energy companies to play a leading role within the journey to a low carbon economy.

The ban on the sale of
Petrol and Diesel Vehicles
from 2040

The Scottish Government has adopted a tighter target for the need of Petrol and Diesel vehicles to be phased out by 2032

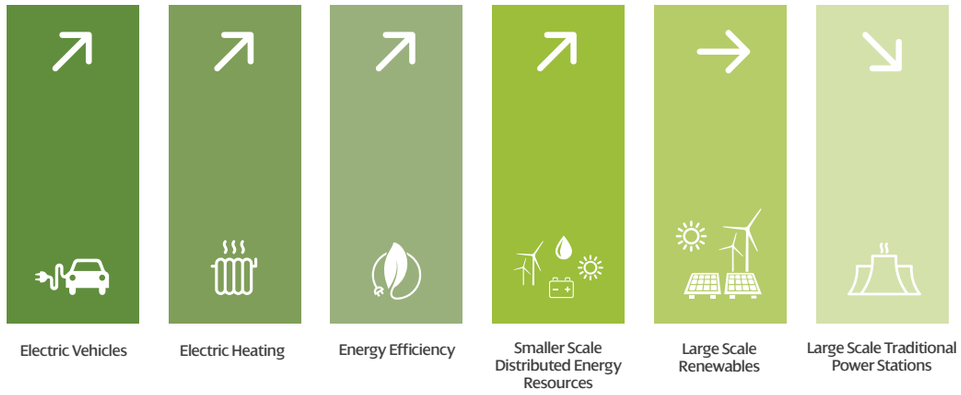
Phase out
unabated coal
generation by 2025.

All houses to have a
Smart Meter by 2020.

By 2050
reduce Greenhouse gases by 80%
compared to 1990 levels.

We are seeing changes in the generation, distribution and use of energy.

Traditional power stations such as large coal power plants are being replaced with increasing numbers of small scale renewable such as solar and wind. This, coupled with the changing way we use energy for everyday activities such as heating and transport means we need to look at innovative approaches to ensure the smart networks of the future are resilient, flexible and affordable for all.



Heat and transport are now the two dominant carbon emission contributors and account for around 56% of the UKs emissions. It is essential that within the UK we work together to reduce this percentage. To facilitate the decarbonisation of heat and transport, we need to continue developing innovative solutions.

We are expecting trends for electric vehicles and heating to accelerate in the coming years as more consumers change to lower carbon electric options. The pace of change is difficult to forecast, however the recent experience of photovoltaics uptake in the UK serves as a reminder that the uptake of other new low carbon technologies like electric vehicles could follow a similar pattern as costs reduce and public acceptance increases. For example, the 2012 forecast of photovoltaic uptake for 2030 was reached within 4 years, instead of 18 years! Auto industry experts predict that by 2022 electric vehicles will be cheaper than our traditional Petrol and Diesel vehicles.

The electrification of both heat and transport will have a dramatic impact on the level of electricity demanded by both businesses and households. One of the opportunities and challenges we are currently facing in the UK is the charging of electric vehicles. If the charging of electric vehicles is uncontrolled, there is the potential that peak electricity demand in the UK could greatly increase. If we have 8m electric vehicles by 2030, as some predictions suggest, then the UK peak demand for electricity could increase by 50%.

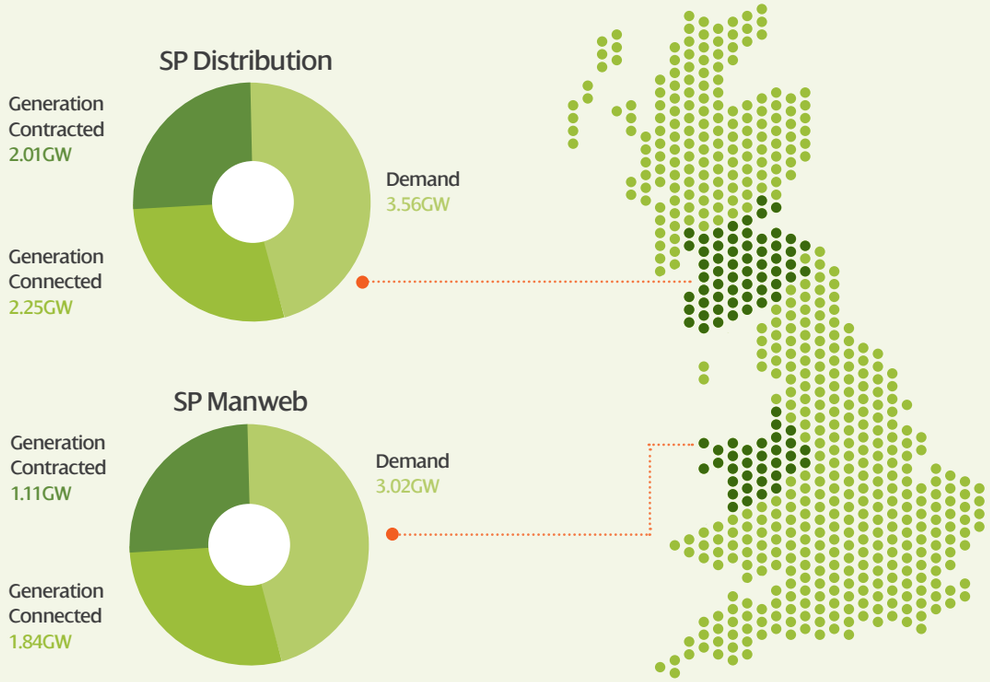
6 | Our Changing Electricity Network

Doing nothing is not an option.

Our networks are at the heart of the transition to a low carbon economy. As a Distribution Network Operator we recognise the opportunities and challenges for the UK's changing energy landscape.

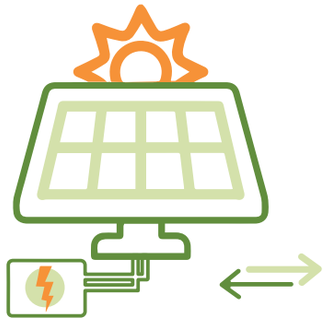
One of the biggest opportunities and challenges all Distribution Network Operators are facing is that electricity networks were built for the traditional one-way flow of energy. But as we change the ways we generate, distribute and use energy, there is a need to facilitate multi-directional flows of electricity across the network.

In areas resource-rich in terms of wind yield and land, but low in population density and electrical demand, we are already managing the challenge of how to use, manage and export this energy at a local level. This means that energy is starting to flow in different directions across distribution networks. As network operators we need to adapt to meet these challenges whilst maintaining low cost and reliable energy distribution for our customers.



Rise of the Prosumer

Our customers are increasingly becoming 'prosumers' (both consumers and producers of electricity). We need to facilitate a fair market for the services that they could provide to the electrical network.



Consumers:

Electricity is supplied to a customer property or business and they consume it.

Prosumers:

Some people produce their own energy. They can store, export it and they might also consume it. They are prosumers. Customers are becoming prosumers.

Prosumers are changing how we work:

They often want the energy they produce to feed into our network, we have to adjust the way we work to meet their needs.

Transition to a Distribution System Operator

The evolution of the energy sector towards a smarter system as described, will only be possible if Distribution Network Operators play an active coordinating role between all market participants, facilitating the markets and services in a neutral and non-discriminatory manner. This can be achieved by extending the current role of Distribution Network Operator to that of Distribution System Operators. An effective Distribution System Operators model will reduce system balancing costs, whilst enabling the flexible networks necessary to facilitate customer's use of low carbon technologies.

Keep the network safe and reliable

Keep costs low for end customers and those connecting generation

Enable smaller generation to take part in the energy balancing services market

Better utilise the existing network

What if we don't become a DSO?

1. Prosumers would lose the chance to play a part in balancing the network.
2. It would be harder to balance the network and maintain a steady supply of electricity.

We are collaborating with other Distribution Network Operators, Industry, key Stakeholders and Ofgem for the transition to a Distribution System Operator.

We are playing a leading role in the UK and Ireland-wide Energy Networks Association (ENA) Open Networks Project. This project is focussed on the transition of the traditional Distribution Network Operator to becoming a Distribution System Operator.

> *"The ENA Open Networks Project is a major energy industry initiative that will transform the way our energy networks work, underpinning the delivery of the smart grid. It brings together Great Britain's network operators and Distribution Network Operators from Northern Ireland and the Republic of Ireland and has included a broad range of stakeholders in its development work, including the energy regulator Ofgem, Government departments, independent Distribution Network Operators (iDNOs), customers, generators, suppliers, storage providers, respected academics, Citizens Advice Bureau and other Non-Government Organisations amongst others."*
>
> Open Networks, Energy Networks Association (ENA)

6.1 | Our Future Networks

We are continuously thinking big, starting small and scaling fast with our world-leading innovation projects. We are enabling a flexible future network and fulfilling our vision to become a Distribution System Operator.

Dumfries and Galloway Integrated Network Management

The electricity network in Dumfries and Galloway has amongst the highest proportion of renewable generation connected in the UK, relative to local electricity demand. Network constraints have restricted existing connected customers as well as significantly delaying new connections. This project will address this problem across 11 Grid Supply Points reducing existing constraints, facilitating new connections in advance of required transmission upgrade works and contributing to carbon reduction targets.

This international ground breaking project will:

- Establish an industry leading wide scale Active Network Management solution.
- Simultaneously monitor and match network capacity with local generation output for Distributed Energy Resources of all sizes.

Dumfries and Galloway Integrated Network Management will contribute to a reduction in CO_2 emissions of 522k tonnes by 2031. This will be achieved through allowing more Renewable Generation to be connected with a benefit to customers of around £40m.

FUSION

FUSION is implementing a local, open and structured flexibility energy market in East Fife. The project is designed to work with prosumers and create flexibility within the network. These prosumers are increasingly becoming engaged in the supply and generation of their own energy.

This project will help pave the way for the transition to becoming a Distribution System Operator.

The project will:

- Test a European market model for the trading of flexible network services.
- Create the Information Technology (IT) infrastructure required to facilitate the energy market.
- Release additional network capacity for Low Carbon Technology connections.

FUSION is working with communities to save customers over £236m and contribute towards a reduction in CO_2 by 2050.

LV Engine

A globally innovative trial of Solid State Transformers at secondary substations. LV Engine is being designed to enhance network flexibility and release additional capacity within existing Low Voltage (LV) infrastructure for the connection of low carbon technologies including electric vehicles and photovoltaics.

The project will:

- Demonstrate the use of a new type of transformer on the distribution network.
- Deliver significant financial savings if deployed across the Great British network.
- Demonstrate a new type of network connection for low carbon technologies.

The roll out of LV Engine at UK level could represent a saving of £62m by 2030 and £528m by 2050.

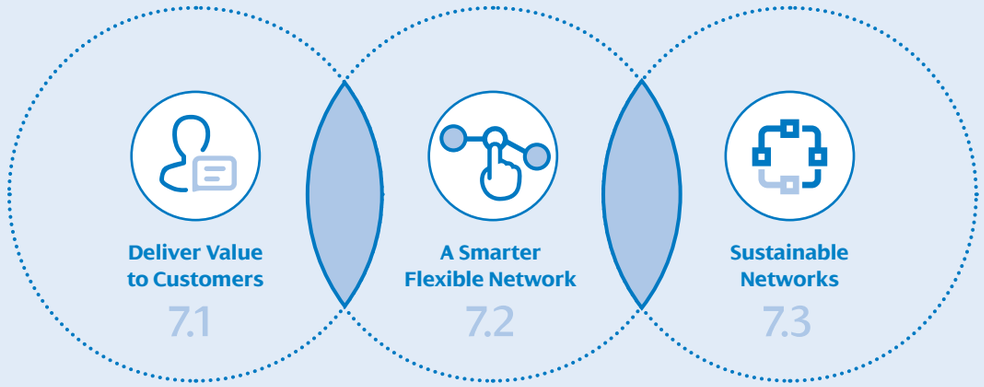
7 | Our Innovation Priority Areas

The aim of our strategy is building to become the utility of the future and continue to deliver real value for the customers we serve. We recognise the network of the future will need to facilitate the low carbon economy, enable the connection of increasing levels of local renewable generation and ensure customers have access to the greatest choice to benefit from low carbon technologies such as electric vehicles and heat pumps.

This all needs to be accomplished whilst ensuring the network is maintained at the lowest cost with the highest level of customer service. To achieve this goal we have indicated our vision to become a Distribution System Operator, through the 2016 publication of our Distribution System Operator Vision Paper last year, and are currently playing an active and leading role in conjunction with the Energy Networks Association to outline how this will be achieved.

From our day to day operations, to tomorrow's world, our stakeholders are with us every step of the way. Their input has informed us on the key challenges and areas of focus and this robust process has identified three core priority areas for innovation:

Utility of the Future



This section provides a high level overview of the priority areas identified in conjunction with our stakeholders. Section 7 provides further information on the opportunities and challenges in each of the of the priority areas.

7.1 | Delivering Value to Customers

We are acutely aware that the funding we access through the various innovation mechanisms is sourced from our customers. In developing our innovation strategy we aim to not only ensure that our innovation activity is focussed on the areas which customers value most, but also that customers are willing to invest more in these particular areas in the short term, to allow the longer term benefits of innovation to be realised.

> *"At SP Energy Networks, we believe in the power of innovation to enhance all aspects of our business and improve our service for the benefit of our customers. We will deliver innovation to reduce costs to customers and meet their future requirement whilst ensuring the network it maintained and operated in a safe and efficient manner."*
>
> **Andrew Lloyd, District General Manager for Merseyside**

Delivering Value to Customers

- **Managing an ageing network**
- **Reducing the number and length of power cuts**
- **Network Control and Management**
- **Maximising the benefit of Data**

We have a strong focus on ensuring our strategy is relevant and delivers value for our customers. Innovation offers significant opportunity to identify new approaches and solutions for the efficient operation and management of the network. Through our ongoing stakeholder engagement these priorities are continuously evolving according to our stakeholders' changing needs.

7.2 | A Smarter Flexible Network

> *Our vision is that SP Energy Networks will enable our customers to take advantage of new technologies and opportunities, enabling the connection of more low carbon technologies and paving the way for a the low carbon economy"*
>
> Gerard Boyd, Commercial and Innovation Manager

As our world transitions to a low carbon economy we will continue to maintain a focus on customer needs. We are creating a flexible network for the future of our utilities, whether it is connecting distributed energy resources, connecting charging points for electric vehicles, maximising the benefits of smart metering or using electricity for heating. We are providing faster, easier network connections so that both home and business electricity consumers can make best use of low carbon technologies as they come to market.

A Smarter Flexible Network

Faster, Easier Connection

Preparing the Network for Low Carbon Technologies

Network Flexibility and Communications

We are taking an active role in developing new approaches to manager capacity and energy flows within the network. We will continue to develop new technologies, commercial arrangements and working practices to meet our customers' changing requirements for a utility of the future.

7.3 | Sustainable Networks

> *Our vision is to be a sustainable networks business. We will embed the principles of sustainability in our decision making, by working with our stakeholders to:*
>
> - *efficiently manage and develop our network in support of the low carbon transition;*
> - *and achieve neutral or positive environmental and social impacts.*
>
> *We will be a leader in this area. Our actions to become a sustainable network operator will drive our supply chain and support our customers and communities to become more sustainable."*
>
> Jane McMillan, Head of Sustainability

The fight against climate change and in favour of sustainable development is one of our most steadfast commitments. Our group has set an ambitious goal to tackle the major challenges facing humankind. We are taking an active leadership role on an international scale in fighting against global warming by signing up to the main international agreements (Paris Agreement 2015) and by actively participating in conferences on climate change sponsored by the United Nations. We are also involved in various lobbies, coalitions and international organisations.

Sustainable Networks

Socially Responsible member of the Communities we serve

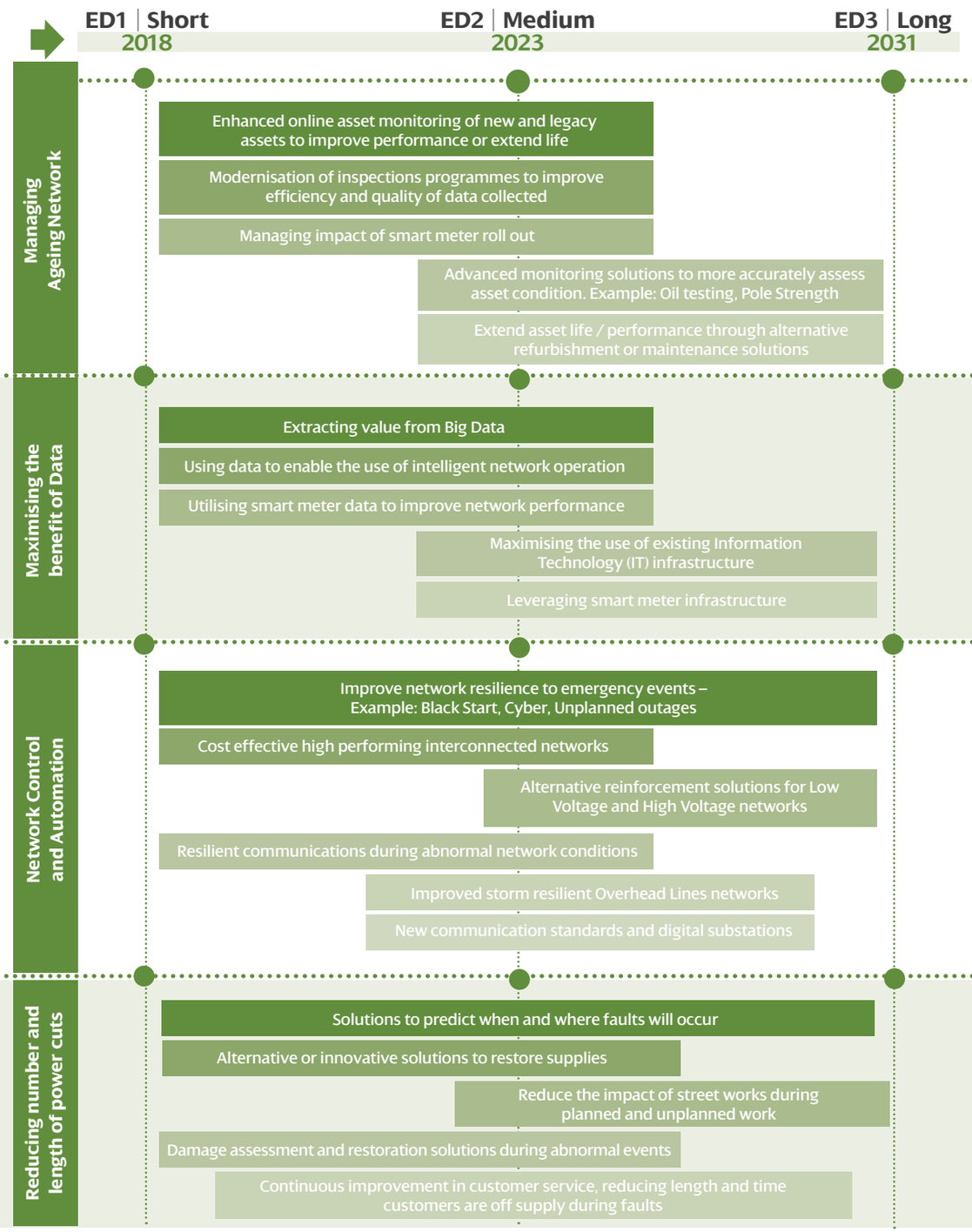
Minimising the Environmental Impact of our Activities and Assets

Working Practices and Business Systems

Our People - Skills and Resources

Our parent company, Iberdrola, has recently introduced a Sustainability Policy, having previously embedded the need to combat climate change in company strategy, adopting a leadership position within the utilities industry. This strategy has called for tougher action on climate from politicians, a greater penetration of renewables in the energy mix globally and has set ambitious targets to become carbon neutral by 2050.

8 | The Opportunities and Challenges



Delivering Value to Customers

Managing Ageing Network

Description

Many of our network assets are approaching the end of their expected life. By embracing innovative processes and technologies we expect to manage the replacement of these assets in the most cost efficient manner possible with minimum risk to customer supplies.

Example of Our Activity

Virtual World Asset Management (VWAM)
VWAM utilises Light Detecting and Ranging (LiDAR) technology to produce a 3D model of the overhead line network. LiDAR is a surveying method that measures distance to a target by illuminating that target with a pulsed laser light, and measuring the reflected pulses with sensors.

This innovation is transforming the way we manage and inspect Overhead Lines, modernising our process and delivering real value for customers. in terms of improved safety and network reliabiity.

Maximising the benefit of Data

Nowadays, there are almost 6.5bn connected devices that share information over the Internet. In 2025, this figure will rise up to 20bn. Big data analyses this "sea of data" to convert it into the information that is transforming our world.
We believe there is potential to deliver customer benefits through undertaking this level of analysis on our network and the way it is utilised by our customers.

NIA _SPEN_0016 Network Constraint Early Warning Systems (NCEWS)
The core aim of this research project is to investigate the initial integration of the smart Meter data to deliver operational benefits to the network and customers. The project looks to develop adaptive and scalable methodologies for future data analytical system and modelling requirements, enabling better visibility of network capacity for new developments.

Network Control and Automation

Network automation and control has significantly improved the experience customers have during unplanned outages caused by faults or severe weather events.

Power cuts have reduced by 17% in SP Distribution and by 22% in SP Manweb since 2010.

Further development will improve network performance and will be essential to introduce flexibility to the network. This will be key to enabling the Distribution System Operator smart grid of the future.

We have pioneered the use of Logic Sequence Switching (LSS) schemes to restore customers more quickly. The 1600 schemes built to date will enable 1.4m customers to be restored within 3 minutes should they experience a power cut. That's 40% of our customer base!

NIA_SPEN_0012 SINE Post
We are also focusing on increased monitoring. Project SINE Post will improve:

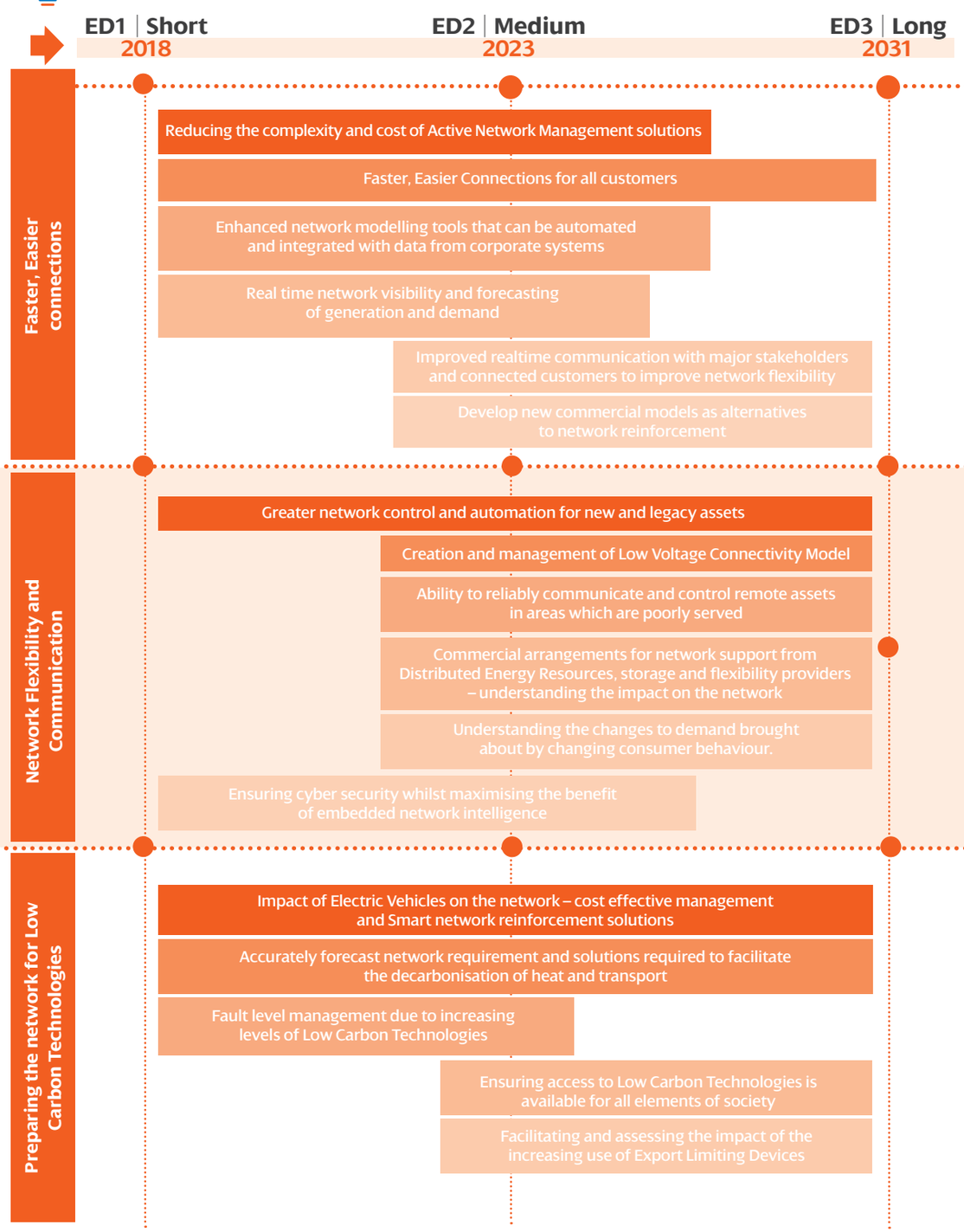
- the identification of overhead Line faults reducing the length of time customers are off supply,
- And the assessment of circuit breaker performance, informing maintenance programmes

Reducing number and length of power cuts

A reliable supply of electricity to homes and businesses is priority number one - a message that our stakeholders consistently endorse. This includes when the network is put under pressure by extreme weather events.
By 2023 we aim to have reduced the average amount of time our customers are off supply by 25% - by reducing interruptions by 7% and the duration of interruptions by 16%. Innovation will be key to achieving these ambitious goals.

NIA_SPEN_0005 Portable Radiometric Arc Fault Locator
This project seeks to improve the speed in which we can locate overhead line faults and reduce the disruption caused to customers. The innovative radiometric approach accurately measures the time of arrival of a fault induced arcing signal at several receiving points. By calculating the differences in the arrival times from the receiving stations, the position of the fault point can be calculated, using a similar system used for lightning location systems.

8 | The Opportunities and Challenges



A Smarter Flexible Network

Description

The aims of our connection strategy are clear:

- To reduce the time it takes to provide a connection offer to customers.
- To make the whole process more efficient, and deliver cheaper connections.
- To improve our communication with our stakeholders.
- To be more flexible to help enable a competitive market.

We are keen to explore Technological, Commercial, Operational and Process innovation opportunities to achieve these aims.

Example of Our Activity

Right through our business, across every level and in every area, we're listening to our stakeholders, especially on how to improve our connections process. Even more importantly, we're acting on what they say, taking what's important to them and getting it right.

We've been recognised by Ofgem as leading the way in providing flexible connections to customers to enable them to connect sooner in contrained areas. We will continue to improve our connections service provisions.

Our Vision is that SP Energy Networks will transition towards becoming a full Distribution System Operator which will facilitate an open and inclusive balancing services market at the Transmission / Distribution interface.
The Distribution Network is more dynamic than at any point in history. Energy is flowing in different directions and consumers are benefiting from new Low Carbon Technologies and increased levels of renewable generation.
It is therefore essential that we can understand the impact of this change on our networks and develop new innovation solutions to help;

- Monitor
- Communicate,
- And Control Assets.

To achieve this goal we have already indicated our vision to become a Distribution System Operator; we were the first network company to publish a Distribution System Operator strategy in 2016.

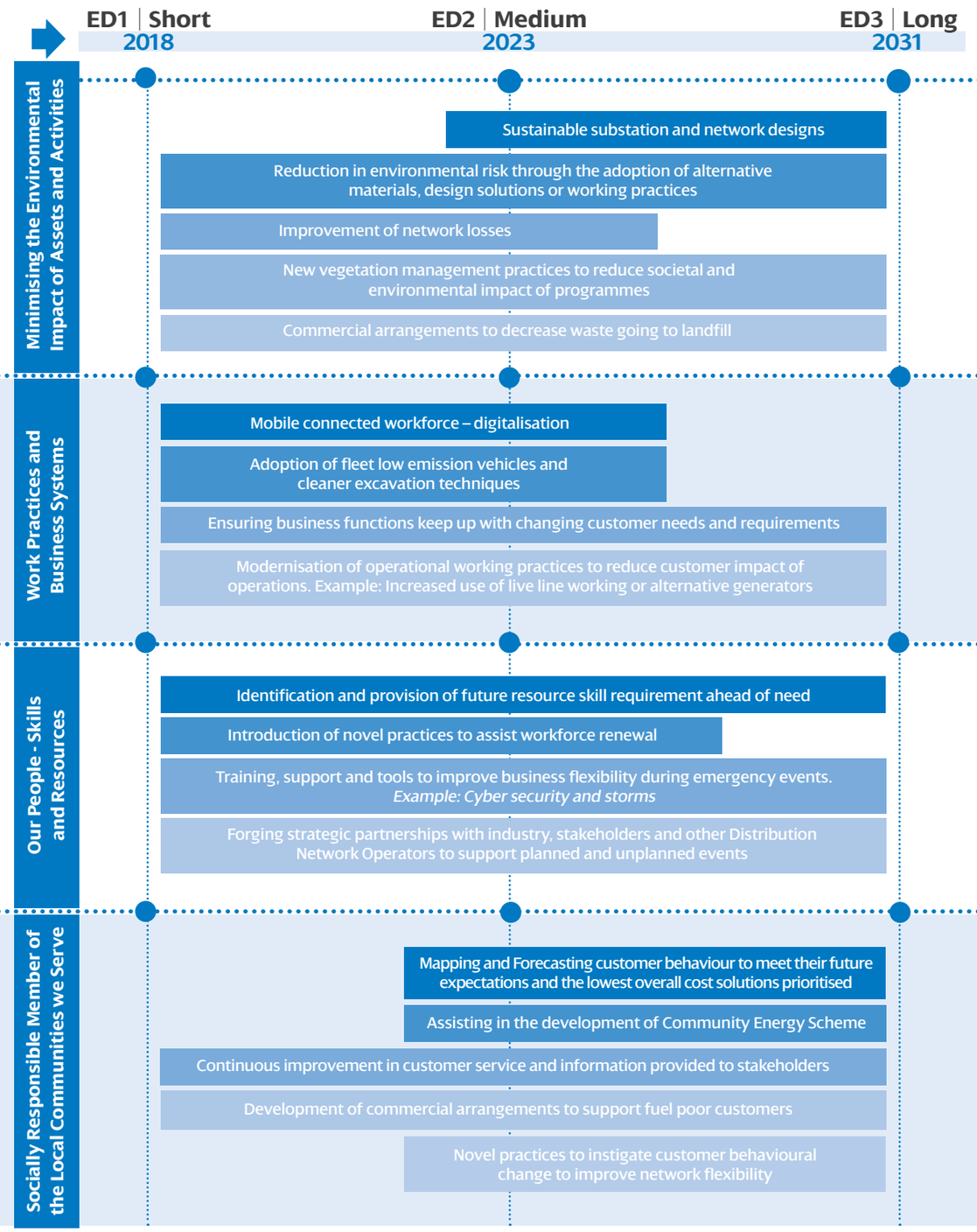
This strategy aims to;

- Keep the network safe and reliable
- Keep costs low for end customers and those connecting generation
- Enable smaller generation to take part in the energy balancing services market
- Better utilise the existing network

We are committed to maximising the benefits of Low Carbon Technologies for the wider society, ensuring our network can accommodate increasing levels of renewable generation and transition towards the electrification of Heat and Transport. The uncertainty surrounding this transition presents a significant challenge for network investment plans.

To facilitate the wide scale rollout of Electric Vehicles we are actively engaging with our stakeholders to refine our understanding of their aspirations, and with industry and suppliers to understand the capabilities of Electric Vehicle products.
In 2016/17 we installed a total of 1830 of Low Carbon Technologies (equivalent to 588MW). This includes the facilitation of Heat Pumps, Photovoltaics and Electric Vehicles.

8 | The Opportunities and Challenges



Sustainable Networks

Description

We have 3 specific environmental objectives set out in our Sustainability Strategy:

Carbon and energy reduction
- 15% carbon footprint reduction by 2023
- 80% carbon footprint reduction by 2030

Waste management and minimisation
- 95% of waste diverted from landfill by 2023
- 100% waste recycles or reused by 2030

Water efficiency and protection
- 10% reduction in water use
- 25% reduction in water use by 2030

These are compared to the 2013/14 baseline

Example of Our Activity

We are currently on target to achieve our Carbon and Energy Reduction by 2023. In 2016/17 we reduced our CO_2 emissions on building energy use, operational vehicle use and business travel by 8%.

We have also identified the following areas where our operations have an environmental impact and where deploying innovative approaches can have significant benefits to our customers:

- Business Carbon Footprint (BCF)
- Losses
- Oil leakage
- Visual amenity

We recognise the energy sector is currently going through a rapid period of change. The traditional ways of doing things will have to change so we can continue to provide the high level of service our customers and stakeholders expect. This will include;
- Digitisation of our workforce
- Improved understanding of customer needs
- Adoption of the latest technologies

This year, we became the first network operator to fully embed an end-to-end engagement management system into our business, ensuring every aspect of engagement planning, delivery, tracking and reporting is more efficient, joined-up, and is entirely evidence-based, carrying out tailored engagement with confidence.

New technology is changing the way we operate. However to maximise the benefits of new solutions we need to ensure that we have required skill and expertise within the business to deploy these technologies.

We aim to help train a new generation of Power Engineering professionals capable of driving the transformation towards a more dynamic and flexible smart energy system.

We have moved forward with our plans to develop our internal team members and new recruits to meet the future requirement of the business. The Scholarship Programme is one example which provides a valuable combination of technical training and work experience, laying the foundations for a successful career within the power sector.

For our internal teams we have delivered a new wave of training, enabling our industrial colleagues to be up-skilled. This will ensure that we can meet the changing energy landscape with confidence in our ability to drive improvements.

Our vision as a business is to be a customer-focused company trusted by our communities and stakeholders; an engineering company with world-class employee and public safety credentials and strong stewardship of assets; and a company that attracts and develops skills for the future from the communities we serve.

Our extensive stakeholder engagement activities allow us to build strong partnerships, influence industry policy and deliver innovation which meets customer expectations. A clear example of this is the industry leading Project Fusion designed to work with Prosumers to create flexibility within the network.

This project will help pave the way for the transition to becoming a Distribution System Operator.

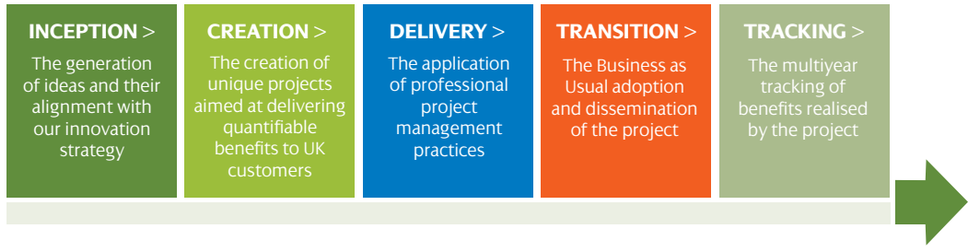
FUSION is working with communities to save customers over £236m and contribute towards a significant reduction in CO_2 by 2050.

9 | How we Innovate

We have established a robust methodology to ensure that our innovation activities undertaken are aligning with our innovation priority areas and the subsequent opportunities and challenges. The process we undertake ensures that every project we take forward focuses on the realisation of the expected benefits for our customers.

9.1 | Our Process and Governance

The process we follow can be broadly outlined by the elements shown below:



Delivering benefits to customers and stakeholders is one of our key aims. Our Internal Governance ensures there is a robust process for the creation, approval and delivery of innovation projects. The process guarantees that each project approved is aligned to the Innovation Strategy and our vision for the transition to becoming a Distribution System Operator. Each project has a dedicated business owner and an identified route to Business as Usual (BaU) adoption with the realisation of its benefits.

Output = Transparency:

- From the highest level within Iberdrola, down to our operational staff
- Why each project has been taken forward
- What the expected benefits are
- How the project is progressing towards BaU

9.2 | Project Inception

Our industry is continuously capturing the hearts and minds of a wealth of innovators both internally and externally. Our challenge is to ensure that we effectively align this valuable resource with our Innovation Priority Areas. Our robust methodology allows us to engage with each of the innovation sources. For this process to work it is essential that we have a transparent exchange of ideas, opportunities, challenges and priorities, doing so ensures all parties are empowered to take forward ideas be it collaboratively or on their own.

Our Innovation Sources

We recognise the value in casting our net as wide as possible when looking for innovative ideas and solutions with the potential to benefit our customers. We believe we have established an open door policy for innovation that enables anyone inside or outside of our company to bring forward novel ideas and solutions. This approach is reflected in our Project Portfolio which consists of solutions and ideas from all of the sources outlined below.

How to Get Involved

For stakeholders and customers alike we are keen to explore any opportunities to collaborate and deploy innovative solutions that are aligned with the opportunities and challenges outlined in our Innovation Strategy. In particular we are looking for opportunities centred on the widespread deployment of low carbon technologies, such as smart meters, distributed energy resources, energy storage, electric heating and transport plus community energy. we are keen to hear innovators who believe they have a solution that aligns with the opportunities and challenges.

We filter proposals based on a high level first assessment that boils down to two questions:

- How does the proposal meet any of the Innovation Strategy opportunities and challenges?
- Does the proposal have the potential to deliver value to UK customers upon its adoption?

Ultimately the prioritisation of proposals is based on the strength of the answers to these questions.

The good news is that our strategic partners, innovators, customers and stakeholders do not need to answer these questions alone. There are several ways they can gain access to support the development of our proposals and get further insight into our innovation needs. The following provides an overview of all the ways you can get in touch, outlining the role each of our strategic partners plays in the delivery of innovative solutions allowing you to identify the most appropriate route for your proposal.

SP ENERGY NETWORKS

Visit the SP Energy Networks website
Our Innovation section is kept up to date with the latest news on our activities and innovation priorities and needs.

Email the SP Energy Networks Innovation Team
You can register your idea by contacting our innovation team at SPInnovation@spenergynetworks.com. Our team will endeavour to give your enquiry consideration against our innovation priorities and commence further engagement or provide constructive feedback from our business experts.

Join our Stakeholder Panel
If you or your organisation operates in our licence areas we would welcome you to join one of our Stakeholder Panels. As a member you will have the opportunity to directly feed into the evolution of our innovation strategy and the prioritisation of challenges.

LCNI Low Carbon Networks & Innovation Conference

Meet the Innovation Team
Our team has a strong presence at the annual Low Carbon Networks and Innovation Conference (LCNI). Attendees at this event can look to schedule time with our team to discuss proposals in person and learn more about our innovation projects.

ena energynetworks association

Smarter Network Portal
This portal enables innovators to research NIC and NIA projects undertaken by LNOs to date and by doing so assess the suitability of their own proposal. www.smarternetworks.org

Network Innovation Collaboration Portal
This portal enables Innovators to make project proposals directly to all UK LNOs and LNOs to invite innovators to participate in planned projects. www.nicollaborationportal.org/

Energy Innovation Centre

Become an Energy Innovation Centre (EIC) Hub Member
The Energy Innovation Centre (EIC) links industry with innovators to accelerate the discovery, development and deployment of innovation across the energy landscape. Innovators can become members of the EIC's global innovation community for free by signing up at www.EICHub.com. As an EIC Hub member you can access industry calls for innovation, showcase your innovations to industry, collaborate with others to develop your innovations and find new markets, raise your profile and keep up to date with sector news and views.

UNIVERSITY of STRATHCLYDE POWER NETWORKS DEMONSTRATION CENTRE

Contact the Power Networks Demonstration Centre (PNDC)
The PNDC is a collaborative venture, bringing together academia, government agencies and industry. The PNDC consists of a small-scale 11kV distribution network which simulates a real energy system and enables innovators to accelerate and de-risk new technologies prior to deployment on electricity networks.
www.pndc.co.uk, pndc@strath.ac.uk

9.3 | Project Creation

As part of our internal governance process we undertake an assessment on the most appropriate source and level of funding for each project and wherever possible we look to leverage funding through collaboration. When assessing the funding of projects we consider:

- The technology readiness level of the proposal
- The scale of the project funding required
- The scale of the benefits delivered
- The certainty that the solution will deliver the benefits expected
- Whether the benefits are solely to the Distribution Network Operator or Societal

A decision is then made as to whether the project is taken forward using existing business funds, through discretionary funding or through the application of ED1 Innovation Stimulus.

ED1 Innovation Stimulus

Network Innovation Competition (NIC) *

This innovation Mechanism is an annual competition to fund selected flagship innovative Projects that will deliver low carbon and environmental benefits to Customers.

- Typically these projects will last 4 to 5 years and be valued over £4m

Network Innovation Allowance (NIA) **

NIA is designed to fund smaller innovation Projects that will deliver benefits to Customers as part of a RIIO-Network Licensee's price control settlement.

- Typically these project will last 2 to 3 years and be valued below £1m

Innovation Rollout Mechanism (IRM)

To fund the roll-out of proven innovations which will contribute to the development in Great Britain of a low carbon energy sector or broader environmental benefits.

- These project must meet the criteria set out by Ofgem and meet a minimum threshold

Avoiding Duplication

If we are looking to use ED1 Innovation Stimulus our first activity is to ensure the idea is unique and avoids duplicating an activity already undertaken by fellow Licensed Network Operators be it as BaU or using innovation funding. We do this through a combination of direct contact with the Licensed Network Operators and through the investigation of projects using the Energy Networks Association (ENA) Smarter Networks Portal. Where we find that there is overlap with the proposal and existing or previous Licensed Network Operators projects we endeavour to extract the learning from those projects prior to making a decision to proceed with a project or the BaU adoption should the learning be sufficient to do so.

Identifying the Benefits

It is essential that prior to starting any project we assess the potential benefit it delivers to UK customers. In practice we do this using an industry approved cost benefit analysis tool to calculate the expected Distribution Network Operator and societal benefits delivered once the solution is fully deployed. Once the benefits have been calculated a decision is then made whether it is in our customers' interest to take the project forward.

* **www.ofgem.gov.uk/network-regulation-riio-model/network-innovation/electricity-network-innovation-competition**

** **www.ofgem.gov.uk/network-regulation-riio-model/network-innovation/electricity-network-innovation-allowance**

Identification of Partners / Collaborators

We have a strong belief that the most successful projects are those that have been created and delivered by the best available resources. In practice these resources are not always necessarily within SP Energy Networks, so as we look to take forward projects we look to see how we can leverage these resources through the identification of partners and collaborators.

Collaborating with UK Licenced Network Operators

There is a commitment between all UK Licensed Network Operators to collaborate on common grounds of innovation to deliver maximum value to UK customers. In March 2018 both the Gas and Electricity network operators will release the first ever Electricity and Gas Network Innovation Strategies through the Energy Networks Association (ENA). These Joint documents will be the foundation of the collaborative projects undertaken in the foreseeable future.

Building a Project Plan Inclusive of BaU Transition

Experience has taught us that the best way to ensure that a project successfully transitions into BaU is to ensure that the all the necessary components to enable the transition are built into the fabric of the project. As such when we create projects we ensure all the following elements are given consideration to ensure the route to BaU is clearly defined.

Ownership

To ensure that projects created are fit for purpose we need to ensure that the expected BaU owners of the solution approve of the planned approach, partnership and its deliverables. We consider two types of owner, the Business Owner and the System Owner, often these are one and the same, however, the prospective needs from both stand points needs to be considered.

- **Business Owner** – The internal stakeholder within our business who will benefit from the outcome of the project if it is successful and delivered into BaU. Their needs tend to focus on the creation of policy, financial approval and the realisation of benefits.
- **System Owner** - The internal stakeholder within our business who will likely be responsible for operating and maintaining the solution if it is successful and delivered into BaU. Their needs tend to focus the more practical aspects such as standards and specifications for procurement and operating and maintaining the equipment.

Success Criteria

Defining what the successful delivery of the project is prior to starting is an essential component of creating a project. The success criteria include the consideration of:

- Inclusion of performance metrics that enable us to assess if the proposal has been a success
- The realisation of the Distribution Network Operator and Societal benefits defined in the business case
- The delivery of essential outputs such as policies, financial approvals, standards, specification, dissemination and training etc.

Internal Approval

Only once the essential requirements of the project and its ownership have been defined can the project plan be completed and approved. Our internal approval process is via the project owners and by either our Innovation Strategy Board or Innovation Technology Board. This approval precedes the registration and signing of any legal documents associated with the project.

Innovation Strategy Board (ISB)

This group consists of several SP Energy Networks Directors and Senior Managers. The ISB concentrates on the approval of our NIC and IRM bids as well as our high value NIA projects and projects with a long lead time to adoption. The ISB is also responsible for facilitating the aforementioned projects transition into BaU and tracking the overall performance of our portfolio of innovation projects.

Innovation Technology Board (ITB)

This group consists of a wide range of personnel from the various business functions within SP Energy Networks. The ITB concentrates on the approval of our NIA projects and facilitating their transition into BaU.

The ITB is also responsible for identifying Project Partners and Collaborators.

Registration of Projects

All approved NIA projects are registered through the Energy Networks Association (ENA) Smarter Networks Portal. This process provides visibility to the wider industry, stakeholders and customers alike of our intentions. For fellow Licensed Network Operators this also gives them an opportunity to register any concerns or desire to collaborate on the project.

9.4 | Project Delivery

The delivery of innovation projects is substantially different from every day conventional projects. There are extra layers of challenges encompassed into these types of projects, increasing their complexity and unpredictability. We have steering groups in place for every project to ensure it stays on track as well as providing advice and guidance into the vital aspects of the project. These include project planning, allocating resources and managing budgets. These features are pivotal in shaping the outcomes of a successful project.

9.5 | Project Transition

The ultimate goal of each of our innovation activities is their transition into BaU, three little words that when explored, account for a great deal of effort. When you consider all of the elements below you can appreciate why the transition to BaU cannot be an afterthought and is built into the fabric of every project we undertake. At crucial stages of the project and upon its completion we review the project's trajectory to deliver the outputs against each of the following essential elements to ensure it is still suitable for BaU adoption.

Essential Elements for Business as Usual Adoption

Ownership

At the start of every project we endeavour to identify the Business and System Owners for the solution should it make the transition to BaU. Throughout the project and upon its closure we periodically review the ownership of the project to ensure the right parties are involved in the project. Ultimately the decision to progress with the BaU adoption resides with the owner(s), so it is essential that they are correctly identified and they are satisfied with each of the other essential elements prior to transition taking place.

Successful Delivery

First and foremost the solution must be a success before it can be considered for adoption, with true innovation there is very real risk that the solution will perform differently to what was initially expected. It is therefore vital that we continually review the projects performance against its success criteria, with a thorough final review undertaken prior to proposing its BaU adoption.

Realisation of Benefits

Prior to adoption it is essential that the initial business case is revisited and as many of the assumed benefits and costs as possible are replaced with actual findings uncovered through the project. Undertaking this analysis using an industry approved cost benefit analysis tool facilitates the transfer to BaU within our existing regulatory framework, as well as the adoption by other Licensed Network Operators.

Financial Approval

Within a regulated industry a major challenge for all innovation projects is the timely identification of relevant funding for the solution upon BaU adoption. Funding will likely require the removal of funding from tried and tested solutions and processes. This decision needs to be made by following stringent financial investment processes, the requirements of which need to be factored into the projects deliverables. This process highlights the need for certainty of the solitons performance and the benefits it is expected to delivery compared to the existing and alternative approaches.

Policy standards and Specifications

The ability to adopt an innovative solution is largely dependent on its ability to be absorbed by the business and this can only happen if the business has mandate and support to do so. It is imperative that these documents created to facilitate BaU adoption are professionally authored and approved by the relevant authority as part of the project.

- **Policy:** These set the mandate for change, either through the update of existing policies or through the creation of new policies, be they internal to SP Energy Networks or wider industry.
- **Standards:** To provide the business with the ability to understand the technical criteria of the solution, the methods, processes and practices essential to operating and maintaining the solution.
- **Specifications:** To outline the precise requirements of the new solution, essential to its procurement. Their production undertaken by the person(s) with the greatest understanding of the solution, which in most instances is the project delivery team.

Training and dissemination

The transition of the innovative solution by the business and wider industry is underpinned through the delivery of effective training and dissemination. Prior to the closure and adoption it is essential that all necessary training and dissemination material has been completed and shared accordingly. The dissemination of projects and findings is not exclusive to successful projects that are to be transitioned to BaU, in many ways it is more important to share failures and shortcomings of projects and solutions to ensure others do not waste resources pursuing a similar fate.

How to access SP Energy Networks Dissemination Activities

We take great pride in the dissemination of the projects we undertake, it is our duty to ensure that the findings of each project are thoroughly reported to ensure value has been delivered to UK customers. At the heart of our dissemination activities is ensuring project findings are accessible to UK customers and fellow network operators. Our innovation dissemination activities broadly fall into the following categories:

NIC Project Progress Reports	We generate bi-annual reports for each of our NIC projects detailing the progress made and the key learning generated. These reports are published on Ofgem's website. www.ofgem.gov.uk
NIA Annual Report	This report is published in July each year and provides an update and summary of the key learning achieved by each NIA project undertaken in the previous financial year.
SP Energy Networks Innovation Webpage	Our innovation website includes links to all our latest dissemination material for our projects. www.spenergynetworks.co.uk/innovation
LCNI Conference	This is the UK's flagship conference for disseminating the learning from each of our innovation projects. We are very pro-active in ensuring that each project is disseminated to as many delegates as possible, ensuring that many of our project leads are present to discuss the project or provide further information. www.lcniconference.org/
SP Energy Networks Dissemination Events	Our pro-active dissemination of projects extend beyond the Low Carbon Network Innovation Conference; we readily accept the opportunity to disseminate the learning from our projects. As such we regularly attend key UK and European conferences to maximise the value delivered by projects. Many of our projects also have dedicated dissemination events at key project milestones and closure in order to accelerate the adoption of learning beyond SP Energy Networks. These events are widely publicised through SP Energy Networks Social Media and electronic communications. www.spenergynetworks.co.uk/ facebook.com/SPEnergyNetworks/ twitter.com/SPEnergyNetwork SPInnovation@spenergynetworks.com

9.6 | Benefit Tracking

The final stage of how we innovate is associated with quantifying and tracking the multiyear benefits realised by the project and solely applies to those projects and solutions that have transitioned into BaU. This stage is not necessarily a component of the project, but it is essential that it is given consideration and a strategy for undertaking it is in place ahead of the projects closure.

Why is this Benefit Tracking important?

- First and foremost it ensures that BaU adoption has taken place and the realisation of benefits from the innovation is enduring.
- Internally it helps justify the benefit of adopting innovation has to our business and our customers, by doing so strengthening our commitment to delivering innovation.
- Externally there are formal requirements to report the enduring benefits delivered by innovation. Doing so plays a vital role in justifying the UK's ongoing commitment to supporting innovation within our industry and the economic benefits it creates.

How do we do it?

In the ideal world the benefit from innovation should be measurable on an ongoing basis, although this is not always possible so our approach is split in two:

- **Measurable Benefits -** Where the solution delivers a measurable change in the business performance on an enduring basis our approach utilises these measurements alongside the cost of the solutions deployment to quantify the benefits.
- **Forecasted Benefits -** Where the benefits cannot be measured on an enduring basis our existing approach to quantifying the benefits is based on the detailed cost benefit analysis undertaken at the projects transition to BaU. Wherever possible the cost benefit analysis tool is modified to enable the compiler to identify the benefits achieved by simply inputting the cost and volume of the solutions deployment in any given year. The modified Cost Benefit Analysis (CBA) tool built by the project team uses this information to automatically calculate the benefit delivered over the course of the solutions life. The benefits are then claimed as a one off benefit in the year of its deployment.

10 | Ongoing development of our Distribution Innovation Strategy

At SP Energy Networks we are moving to a low carbon economy.

We have incorporated within our innovation strategy our vision to evolve from our current role as a Distribution Network Operator to become a Distribution System Operator. Our vision highlights our commitment to contributing towards the achievement of climate change targets. Innovation is playing an important role in realising a low carbon economy and our innovation projects are working towards facilitating transition.

During the remainder of ED1 and going into ED2 in 2023, SP Energy Networks will continue to engage with stakeholders and communities to ensure our Innovation Strategy aligns with the changing needs of our customers.

For more information visit:

- www.spenergynetworks.co.uk/
- facebook.com/SPEnergyNetworks/
- twitter.com/SPEnergyNetwork
- SPInnovation@spenergynetworks.com

11 | Want to know more

The table below provides an overview of all of the distribution innovation projects we have undertaken in ED1 as of the December 2017. To access further information on all of the projects and any subsequently registered following the release of this document please visit the Energy Networks Association (ENA) Smarter Networks Portal.

Project	Status	Delivering Value to Customers: Managing an Ageing Network	Delivering Value to Customers: Maximising the Benefit of Data	Delivering Value to Customers: Network Control & Management	Delivering Value to Customers: Reducing the Number and Length of Power Cuts	A Smarter Flexible Network: Faster, Easier, Accurate Connections	A Smarter Flexible Network: Network Flexibility and Communications	A Smarter Flexible Network: Preparing the network for Low Carbon Technologies (LCT)	Sustainable Networks: Minimising the Environmental Impact of Assets and Activities	Sustainable Networks: Modernisation of Work Practices and Business Systems	Sustainable Networks: Our People - Skills and Resources	Sustainable Networks: Socially Responsible Member of the Local Communities We Serve
NIA_SPEN 0001 Smart Building Potential Within Heavily Utilised Networks	COMPLETED						✓	✓				✓
NIA_SPEN 0002 Virtual World Asset Management	ONGOING	✓	✓		✓	✓			✓	✓	✓	✓
NIA_SPEN 0003 Enhanced Real-Time Cable Temperature Monitoring	COMPLETED			✓		✓	✓	✓				
NIA_SPEN 0004 Substation Earthing Integrity	COMPLETED				✓						✓	✓
NIA_SPEN 0005 Portable Radiometric Arc Fault Locator	COMPLETED				✓					✓		✓
NIA_SPEN 0006 Mini-mole	ONGOING	✓				✓		✓	✓	✓		
NIA_SPEN 0007 SUSCABLE 2	ONGOING							✓	✓			
NIA_SPEN 0008 APPEAL	ONGOING	✓							✓			✓
NIA_SPEN 0009 DINO	COMPLETED		✓									
NIA_SPEN 0010 EVOLUTION	ONGOING			✓			✓	✓				
NIA_SPEN_0012 SINE Post	ONGOING	✓	✓	✓	✓	✓		✓		✓		
NIA_SPEN_0013 Interoperable LV Automation	ONGOING	✓		✓	✓		✓					
NIA_SPEN_0014 Active Fault Level Management	ONGOING	✓				✓	✓	✓		✓		
NIA_SPEN_0015 Real Time Fault Level Monitoring	ONGOING	✓				✓	✓	✓		✓		
NIA_SPEN_0016 NCEWS	ONGOING		✓			✓		✓		✓		
NIA_SPEN_0017 Secondary Communication Phase 2	ONGOING			✓								
NIA_SPEN_0018 STATCOM	ONGOING			✓								
NIA_SPEN_0019 Operational Assessment of Wood Poles	ONGOING	✓							✓			✓
NIA_SPEN 0020 Instrument for the identification of Live and Not Live HV and LV cables	ONGOING									✓	✓	
NIA_SPEN 0021 Endbox G38 Level Detection	COMPLETED	✓								✓		
NIA_SPEN 0022 Weather Normalised Demand Analytics (WANDA)	ONGOING					✓	✓	✓				
NIA_SPEN 0023 Connected Worker Phase 1 - Field Data Automated Capture	ONGOING		✓							✓	✓	
NIA_SPEN 0024 Endbox G38 Level Detection Phase 2	ONGOING	✓								✓		
NIA_SPEN 0025 Low Cost Fault Current Measurement of Wooden Poles	ONGOING	✓			✓					✓	✓	✓
NIA_SPEN 0026 Linkbox Monitoring using Narrow Band IoT	ONGOING	✓	✓		✓					✓		
SPM/EN/ 01 ANGLE DC	ONGOING			✓			✓	✓				
NIA_ENWL 0003 Review of Engineering Recommendation P2/6	ONGOING					✓		✓	✓			
NIA_NGET 0135 REACT	COMPLETED						✓					
NIA_NGET 0154 Work Stream 7	COMPLETED					✓		✓				
NIA_NGGD 0072 Project Future Wave Phase 3	COMPLETED					✓		✓				✓
NIA_NGN 142 CONCUR	COMPLETED											✓
NIA_NPG 0001 Vonaq Utility Pole Strength Measurement	COMPLETED	✓							✓	✓		
NIA_SGN 0035 Beyond Visual Line of Site	COMPLETED	✓	✓						✓	✓		
NIA_SSEPD 0006 Ultrapole	COMPLETED	✓							✓	✓		
NIA_WPD 0008 Improvement Statistical Ratings for OHL	ONGOING	✓				✓		✓		✓		
NIA_WWU 0025 Project Future Wave Phase 2	COMPLETED					✓		✓				✓
SPM/EN/02 LV Engine	ONGOING											
SPD/EN/03 Fusion	ONGOING	✓	✓	✓		✓	✓	✓		✓		✓

SP ENERGY NETWORKS

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