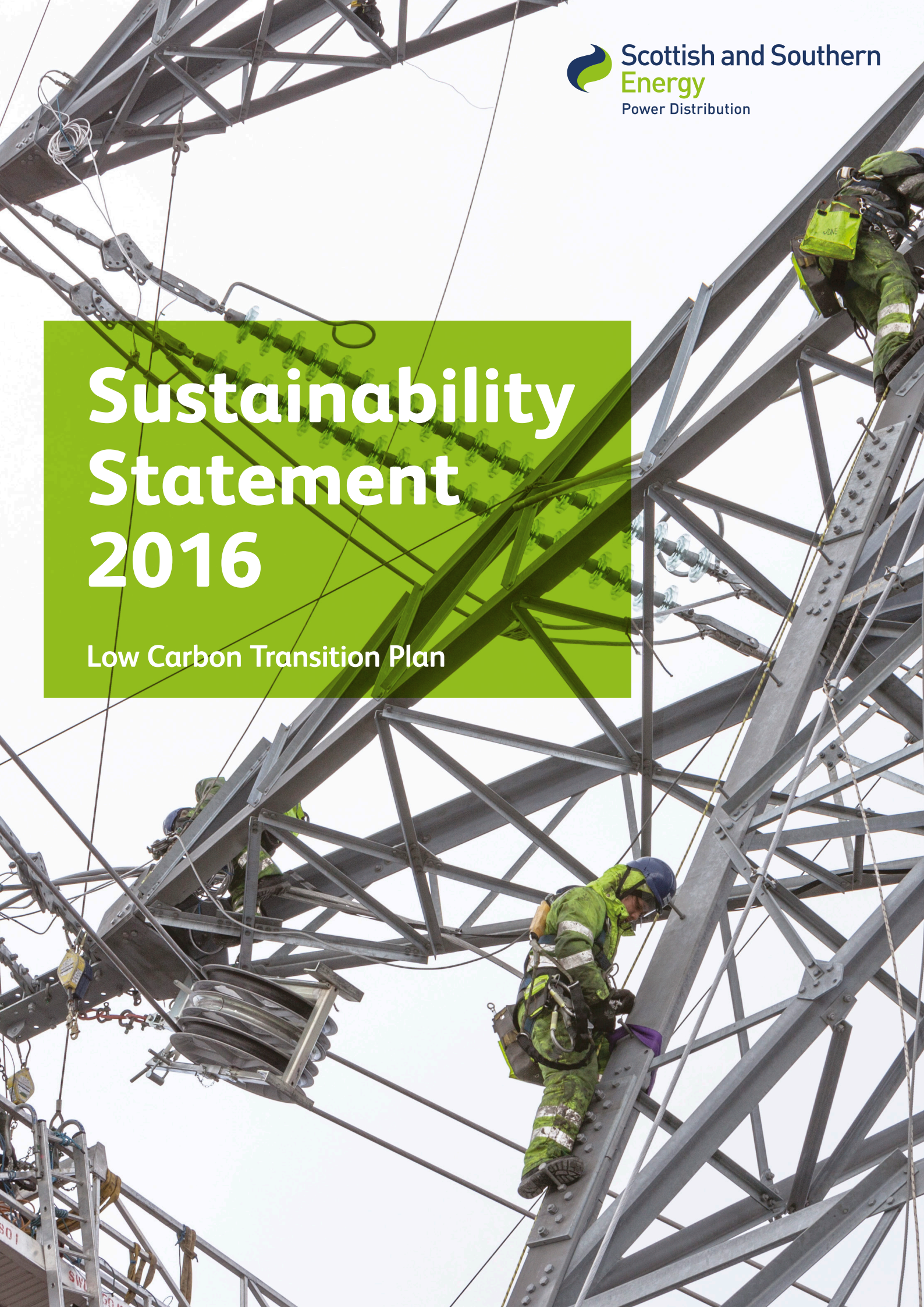


# Sustainability Statement 2016

Low Carbon Transition Plan







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# Executive Summary

## Our Vision

**Here at Scottish Hydro Electric Transmission (SHE Transmission), we know just how important good electricity grid connection is to the social, economic and environmental well-being of communities.**

We do not believe it is possible to facilitate the transition to a low carbon economy without taking a long-term, sustainable view of both the operation and development of the north of Scotland electricity transmission network. Therefore, we aim to consider carefully the impact of our activities on the environment, society and the wider economy. To help people understand the systematic approach we're taking to adapt, reinforce and change electricity transmission in our network area in a reliable and sustainable way, we publish an annual review on sustainability.



**David Gardner**  
Director of Transmission

“Our vision is to sustainably meet the electricity network needs of our customers now and in the future.”



# Our Vision

## Short-Term

**In order to mitigate the worst effects of climate change, the UK must reduce its carbon emissions by at least 80% by 2050.**

The power sector is at the forefront of those efforts with a dramatic increase in electricity generated from renewable sources since 2006. With the greatest renewable resources in Scotland, particularly in the north of Scotland, there has been increasing demand on existing infrastructure. That means SHE Transmission has been building new electricity grid infrastructure to ‘transport’ the new low carbon green energy to meet demand from the rest of the grid.

The construction of the Beaulay – Denny line in 2015 was an important step in securing the future of Scotland’s electrical network and in the past three years we’ve connected around 500MW of renewable generation in the north of Scotland.

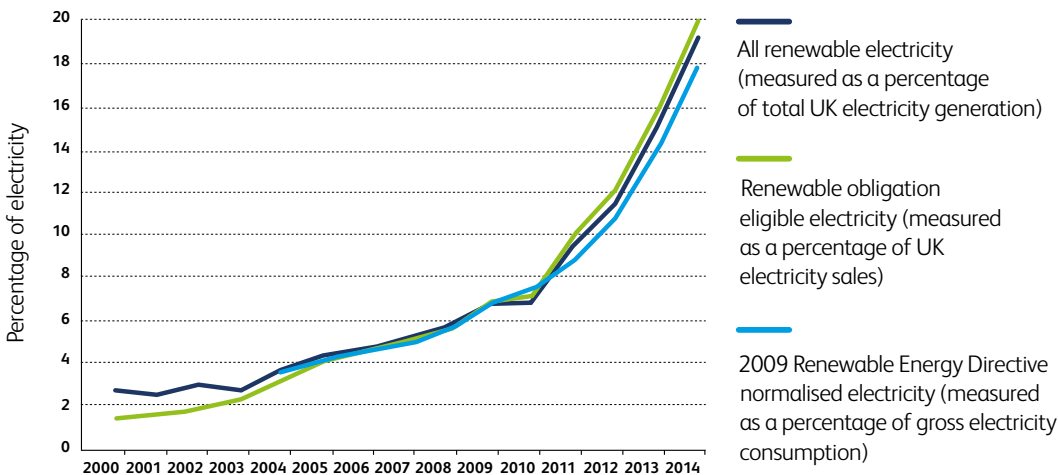
In the next two years our contribution will be greater still: a further 1,200MW of low carbon generation is expected to be connected. Reducing emissions in Scotland progress report 2015 published by the Committee on Climate Change (CCC) determined that transmission infrastructure is likely to be able to accommodate 2020 renewable output despite some delays in transmission and interconnection projects. We will continue to play our part in delivering low carbon green energy.



### Beaulay – Denny line

As a direct result of the Beaulay – Denny project, 30 individual renewable developments across the north of Scotland will have progressed to completion, totalling over 700MW of new renewable generation. A further 22,000MW of transmission infrastructure nationally could be needed to cost-effectively accommodate increasing levels of low carbon generation.

### Growth in electricity generation from renewable sources since 2000





# Our Vision

## Medium-Term

**The UK's path towards a sustainable and low carbon energy system requires us to adapt our existing infrastructure in an affordable and secure way.**

Increasing cost efficiency, reducing resource consumption and integrating low carbon technologies into the electricity transmission network is vital. There are strong correlations between reducing costs and carbon abatement, especially during construction.

The Institute of Civil Engineers (ICE) project estimates that by 2050 up to 30% of annual carbon emissions of infrastructure could come from construction. Through our supply chain, we're fostering more responsible and sustainable business practice to maximise value for money and reduce the impacts of our projects. In order to maximise capacity and accommodate rapid growth in renewables the electricity network has had to evolve in ways it was not originally designed for. Our ability to innovate is essential to improving network efficiency, interconnectivity and reducing the load-related losses of our network.



“I took a keen interest in the proceedings taking place in Paris at the United Nations Climate Change Conference (COP21) in December 2015. The result of the proceedings was a far reaching international agreement to tackle climate change. The Paris agreement, which will come into effect in 2020, was signed by almost 200 countries with the aim of limiting the rise in global temperatures to less than 2°C.”

**David Gardner**



- Read David's full article on our website
- Visit the World Climate Summit website

# Our Vision Long-Term

**While demand reduction from increased energy efficiency may mitigate some of the need for network reinforcement, a need will remain for SHE Transmission to manage an increased electricity load.**

The rapid deployment of many low carbon technologies, such as electric vehicles and distributed generation may need to be integrated and co-ordinated at a whole system level. Other areas such as buildings, heat and gas, may also depend on us to provide security and co-ordination.

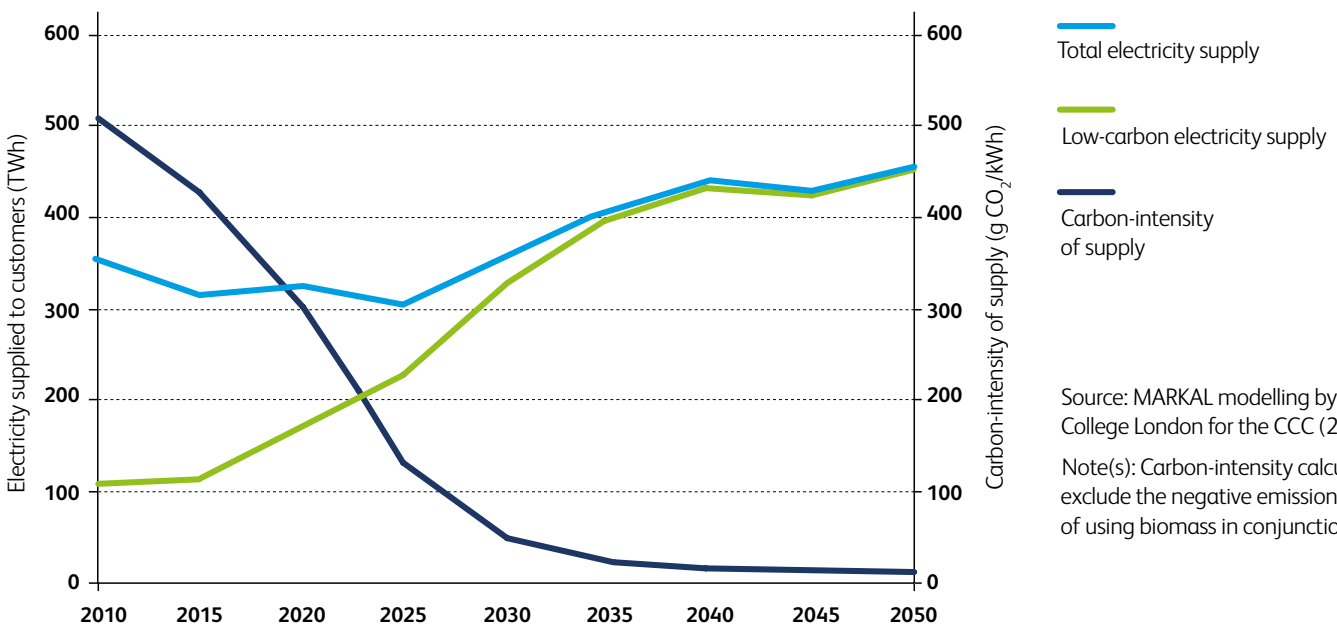
Advanced transmission network technologies have the potential to meet future stresses placed on the electricity system more cost effectively than traditional methods of grid reinforcement and fossil fuel-powered system, thus balancing capacity. One such innovation vital to securing the core transmission system is the National HVDC (High Voltage Direct Current) Centre. This world leading state-of-the-art facility, which will open in March 2017, will be an invaluable tool for system planners, asset owners and operators for the study of HVDC Transmission in Great Britain for decades to come.

Our determination to act in a sustainable way is deeply embedded throughout SHE Transmission's different business operations. We take this opportunity to thank you now for your contributions to our future plans and promise to continually review this plan. It's just part of how we are aiming to be responsible in all that we do.

“As regulation control of carbon emissions tightens up to 2050, companies furthest ahead in reducing emissions will have the greatest opportunity to succeed.”

David Gardner

## MARKAL trajectory for the power sector (2010–2050)



Source: MARKAL modelling by University College London for the CCC (2010).

Note(s): Carbon-intensity calculations exclude the negative emissions benefits of using biomass in conjunction with CCS.

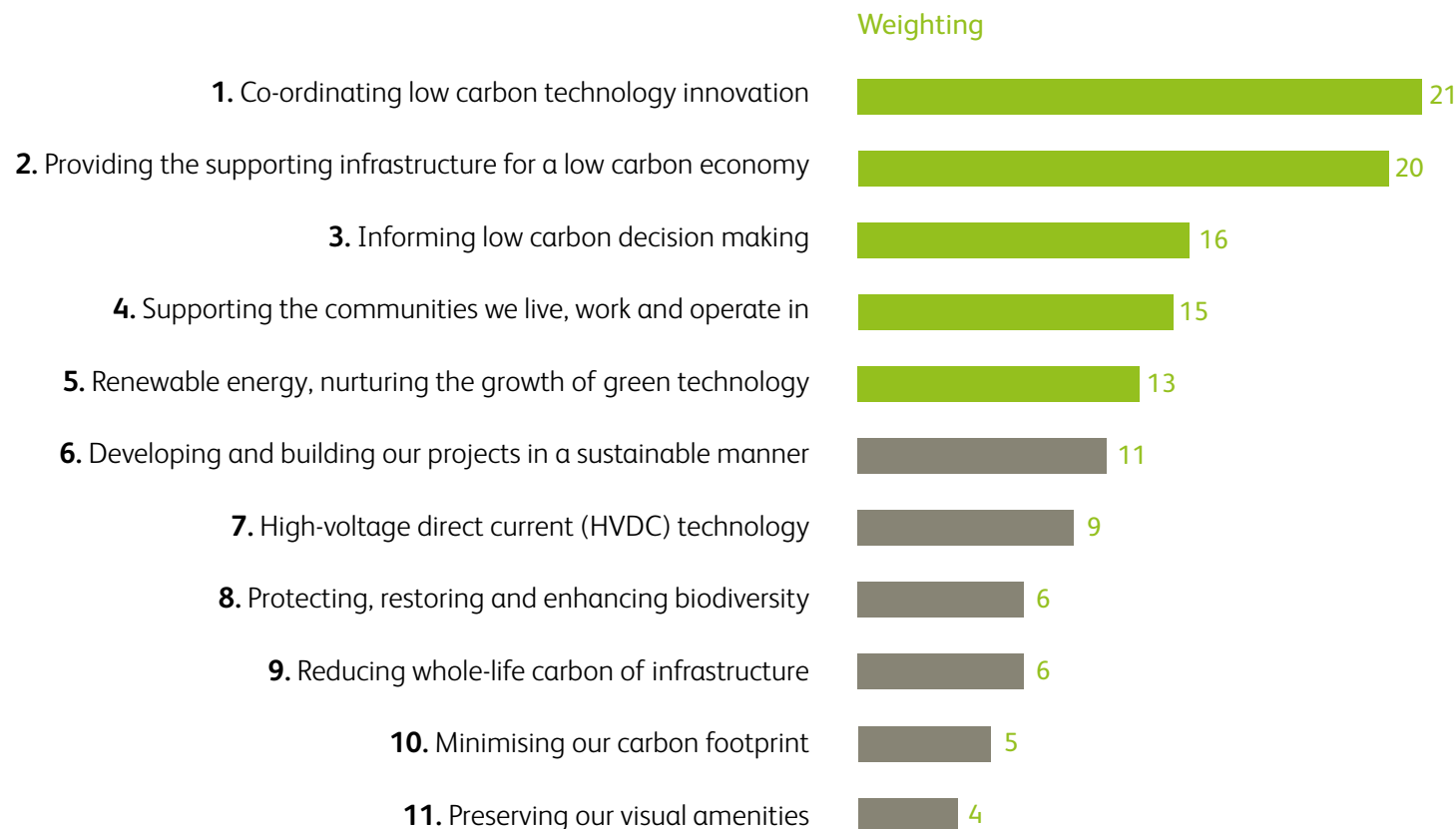
# Our Low Carbon Transition Plan

## What's in our SCOPE?

**Sustainability has been a guiding value in SHE Transmission since 2006. It helps establish the right standards for how the business is run and is a driver behind our Low Carbon Transition Plan. What contributes to our success is the integration of stakeholders as part of our decision making process.**

SHE Transmission is involved in delivering initiatives that help the industry efficiently transition to a low carbon economy. To help us prioritise what initiatives we pursue in future, in 2015, we engaged stakeholders on what sustainability and low carbon themes were most relevant and strategically important to them. Co-ordinating low carbon technology came out on top.

- S** Set out a low carbon strategy; which paves the way towards a low carbon energy system.
- C** Continue to work with Ofgem and the industry to deliver the investment required to ensure that the electricity transmission will be able to change in the future.
- O** Operate the safest, most responsive and innovative network.
- P** Provide security and co-ordination as the UK deploys its low carbon energy system.
- E** Enable a low carbon economy to thrive in the north of Scotland.



# Key Strategic Initiatives

## Our 'Year at a glance'

In 2015/16, SHE Transmission continues to make a significant contribution to sustainability. Our key strategic initiatives help to deliver important social, economic, environmental and low carbon objectives in the short-term and beyond. Full details of our initiatives highlighted can be found in our expanded digital edition, including details on how you can get involved. Please visit our website to download.

### Short-Term (2015/16)

#### Stakeholder engagement



Identifying and pro-actively engaging with low-carbon leaders is one way in which SHE Transmission is improving transparency, openness and the debate about the future of the GB energy network.

#### Renewable energy



Our ability to increase transfer capacity is vital to ensuring the lights stay on in a low carbon energy system. The replacement Beaulieu – Denny line in 2015 is just one of a number of important steps we're taking to secure the future of Scotland's electrical network.



# Key Strategic Initiatives

## Our ‘Year at a glance’

### Environment management



We recognise that our increased activity will almost inevitably have an aesthetic and environmental impact however well maintained electrical transmission corridors can also provide valuable habitat for butterflies, moths, bumblebees and other threatened invertebrates.

### Living wage



Since April 2014 all new service and works contracts tendered by SHE Transmission included an obligation to ensure regular contracted employees receive at least the Living Wage. The Caithness – Moray subsea cable contract is the largest Living Wage compliant contract ever tendered in the UK. New research from KPMG quantified the value to contracted employees of this policy.

# Key Strategic Initiatives

## Our ‘Year at a glance’

### Medium-Term and beyond (2016 – 2030)

#### Transmission planning



As part of the new Network Options Assessments (NOA), transmission developments and how they are assessed will for the first time be published. Accelerating the growth of renewable energy.

#### Transmission development



The routing of electricity transmission infrastructure is a complex process, requiring a balance between engineering requirements, economic viability, and the environment. In 2015, Ofgem launched VISTA – its policy initiative designed to assess the visual impact of existing electricity infrastructure on National Parks and National Scenic Areas (NSAs).

# Key Strategic Initiatives

## Our ‘Year at a glance’

### Standards, specification and innovation



Scotland’s path towards a sustainable and low-carbon energy system requires us to adapt our existing infrastructure in an affordable and secure way. Increasing cost efficiency, reducing resource consumption, and integrating low carbon technologies into the Scottish network is a vital.

### Advanced transmission



The National HVDC Centre will open in March 2017, and will be a vehicle for cooperation with transmission system owners/operator, OFTOs, interconnector owners, renewable developers, HVDC vendors and academic institutions.



More information can be found  
in our **expanded digital edition**.

**Please get in touch**

if you have any questions, or you  
would like to take part in future  
stakeholder consultations.

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