

SSEN Transmission

Stakeholder Workshop

8th March 2018



Scottish & Southern
Electricity Networks

Welcome

Welcome

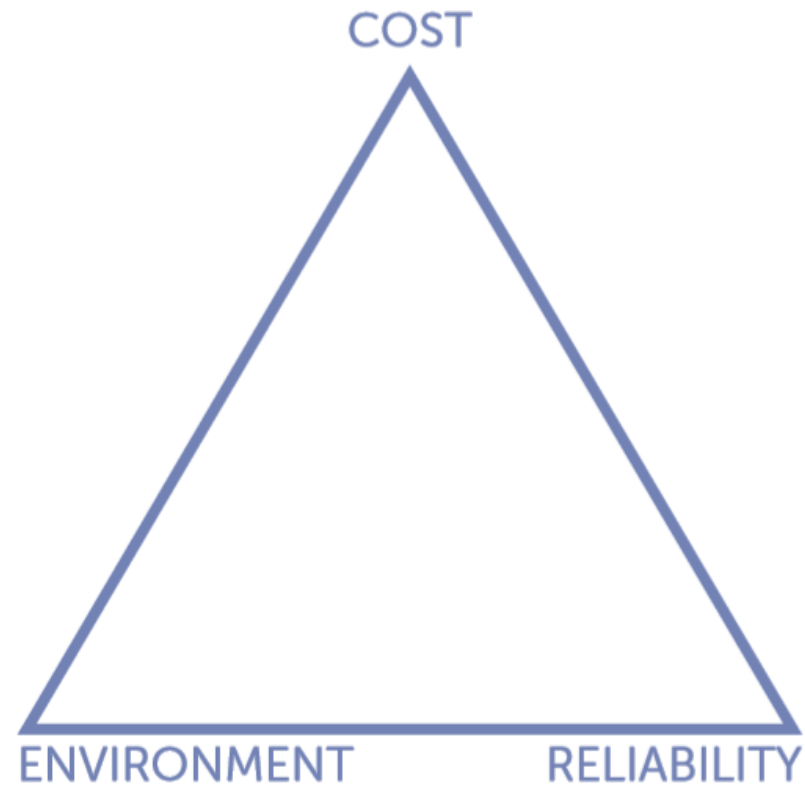
- Housekeeping
- Safety moment
- Why are we here today?
- The role of EQ Communications

Workshop agenda

Welcome	Alec Morrison (Customer & Community Manager)	10.00 – 10.10
Session One: Introduction and current performance	Colin Nicol (Managing Director) Dave Gardner (Director of Transmission)	10.10 – 10.50
Session Two: Stakeholder engagement and reporting	Alec Morrison Michael Blake (Performance Manager)	10.50 – 11.45
Coffee break		11.45 – 12:00
Session Three: Planning for the future	Aileen McLeod (Head of Business Planning & Performance)	12.00 – 13.00
Session Four: Q&A	Dave Gardner	13.00 – 13.10
Wrap up and next steps	Dave Gardner	13.10 – 13.15
Lunch and afternoon drop-in sessions		13.15 – 14:00

Ice-breaker

Where do you think the balance of the trilemma factors will be?



Session One

Introduction and current performance



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Colin Nicol

SSEN Managing Director

Our performance to date

Dave Gardner, Director of Transmission

North of Scotland Hydro-Electric Board

(NOSHEB)

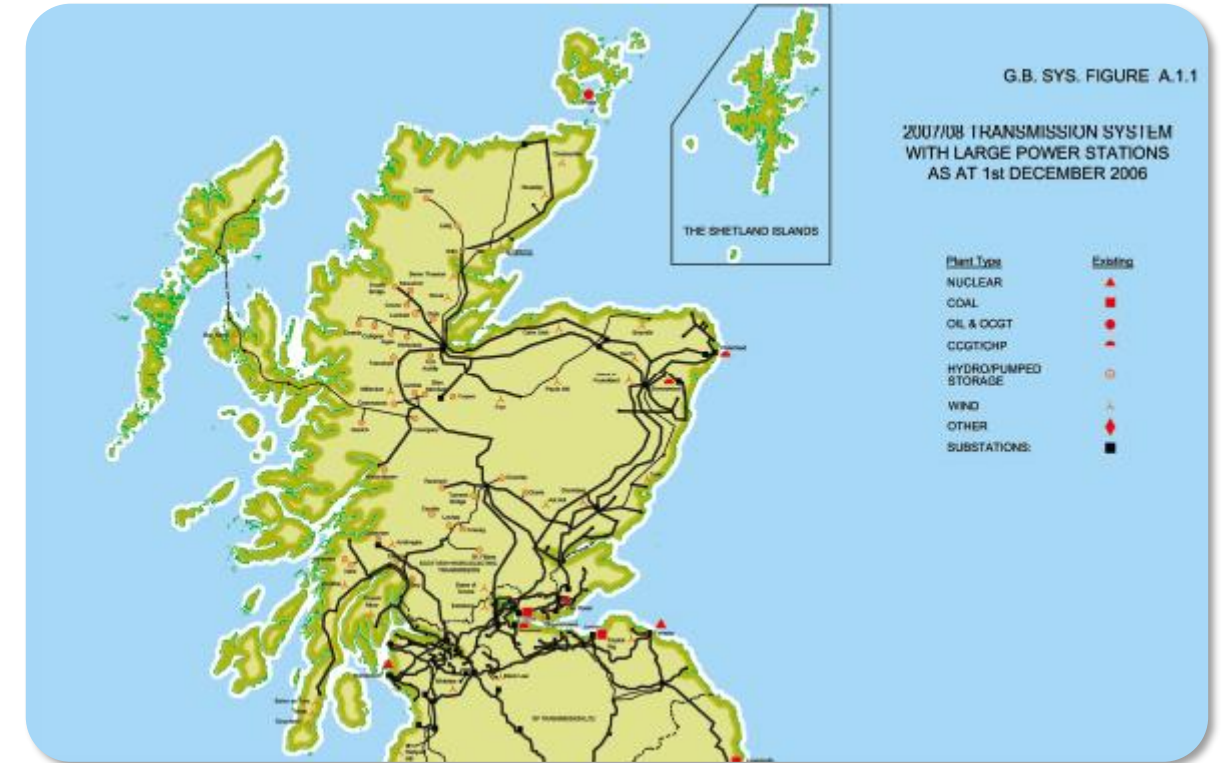
- Founded in 1943
- Design, construct and operate hydro-electric power stations in the north of Scotland
- Covers 25% of land area of UK, with 3% of population
- Also required the construction of the power lines (transmission and distribution)
- Main construction phase post-WWII to 1970s
- Privatised in 1991



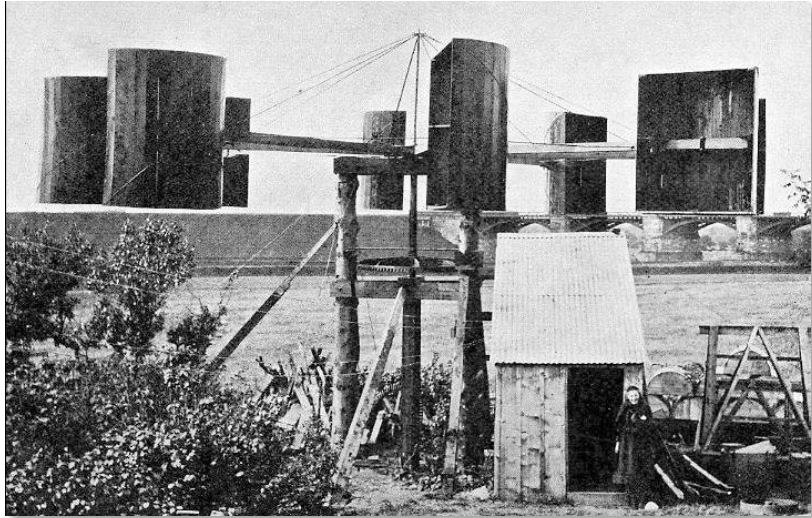
SSEN Transmission Network:

From construction to Mid-2000s

- Strong 132kV and 275kV circuits along the east coast (Perth, Dundee and Aberdeen) and along the Moray coast to Inverness – **served population centres**
- Weak radial 132kV circuits to the north (Caithness), west (Fort William) and southwest (Argyll) – **served small population centres and small hydro schemes**
- Of the Scottish islands, only Skye and the Western Isles were served by long radial 132kV circuits



Then things changed...



Marykirk, 1891

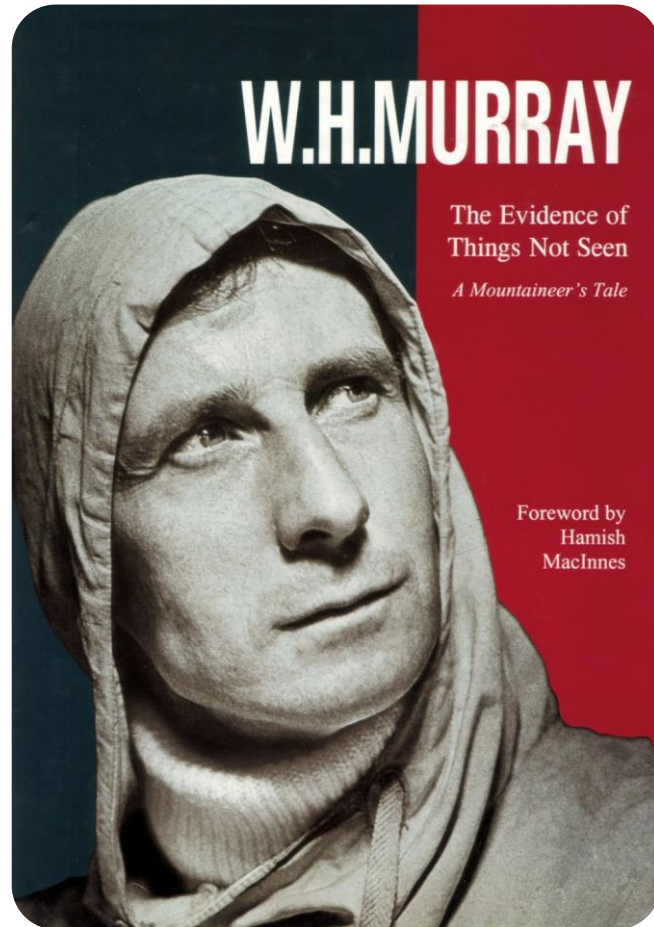


Costa Head, 1951



Griffin, 2012

Visual Amenity Has Always Been A Concern



“In Kintail, nothing lacks; all things culminate. It is the epitome of the West Highland Scene.”

Mullardoch



Glen Affric





Beatrice Demonstrator



Marine Device



Gordonbush Windfarm

Re-building the Network for Renewables

Significant reinforcement of the network has been undertaken since 2009, largely to accommodate new renewable generation, with total expenditure >£3bn.

RECENTLY COMPLETED

1	Beaully Denny
2	Beaully Blackhillock Kintore
3	Kintyre Hunterston
4	Beaully Mossford
17	Foyers Knocknagael

UNDER CONSTRUCTION

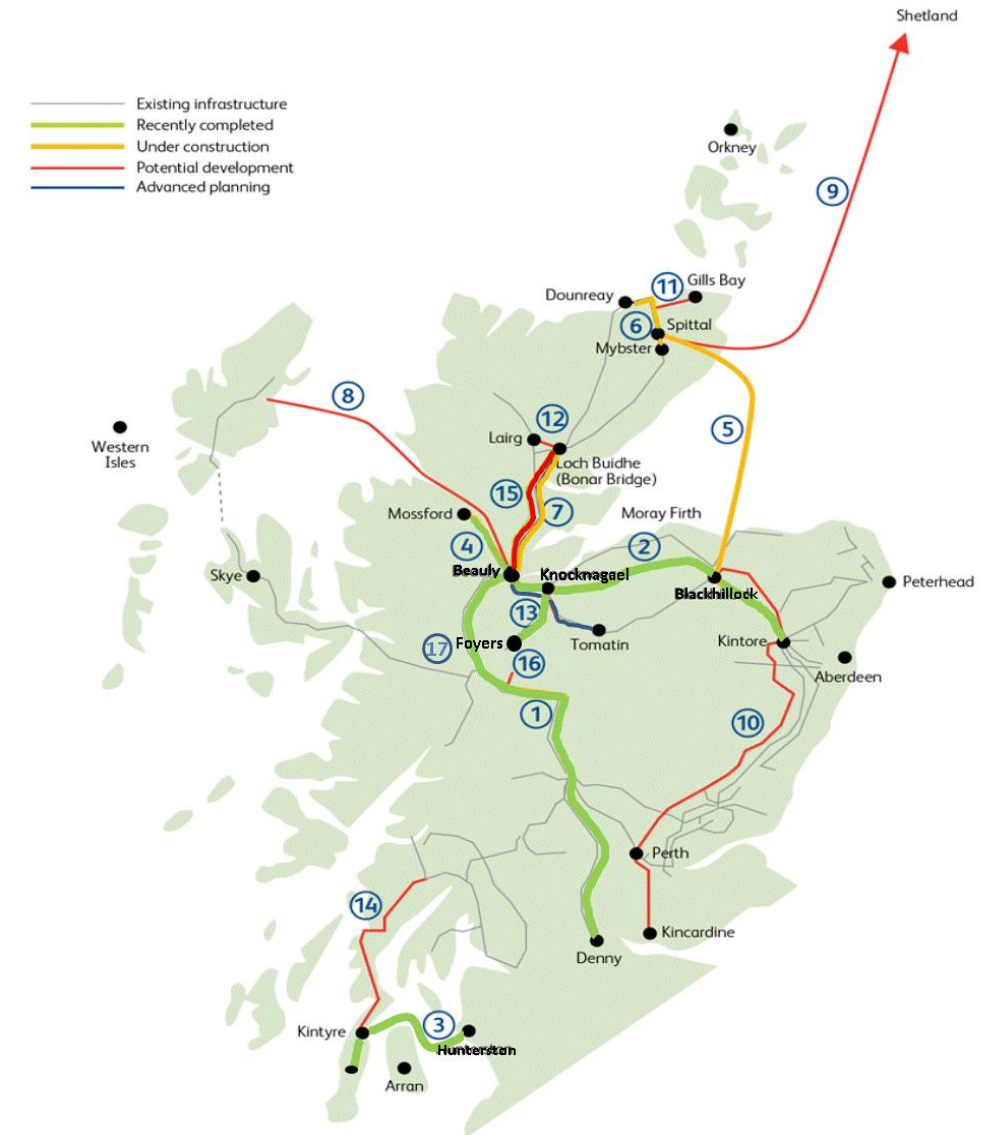
5	Caithness Moray HVDC
6	Dounreay Mybster
7	Beaully Loch Buidhe ph1
16	Stronelaig connection

ENTERING CONSTRUCTION

13	Knocknagael Tomatin
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UNDER DEVELOPMENT

8	Western Isles
9	Shetland
10	East Coast ph1
11	Gills Bay
12	Lairg Loch Buidhe
14	Inverary Crossaig
15	Beaully Loch Buidhe ph2





Beaully Denny



Dorenell Windfarm



Stronelaig Melgarve



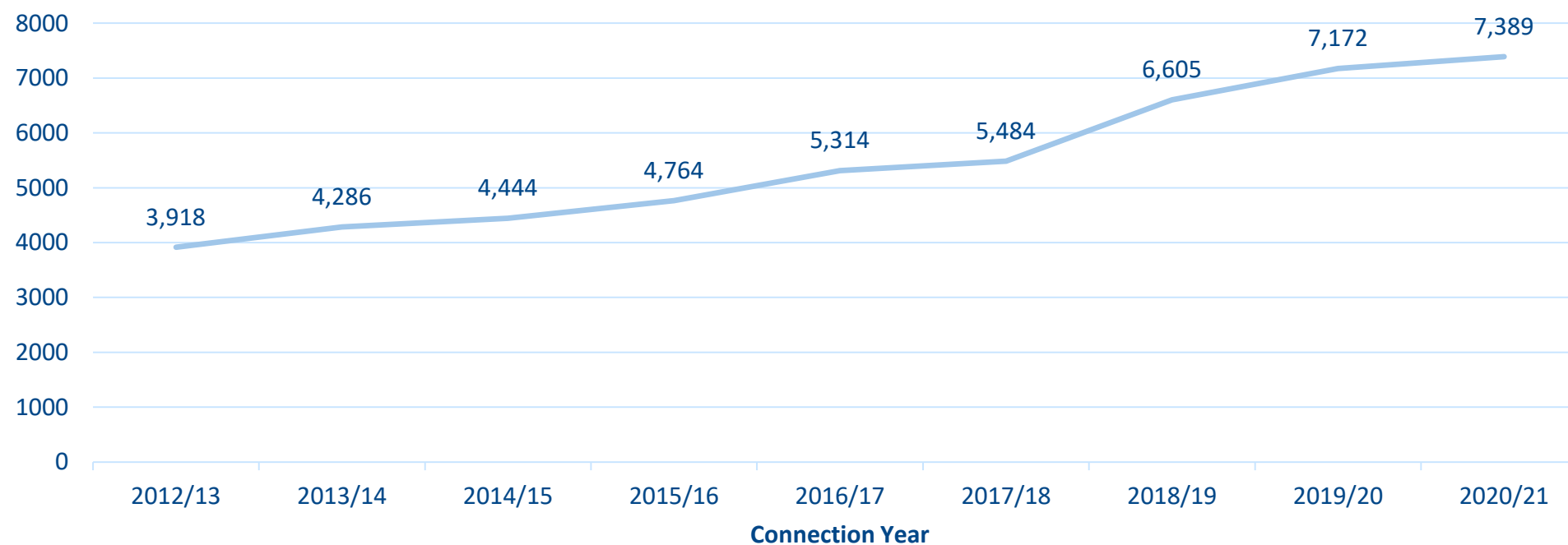
Caithness Moray



Kintyre Hunterston

Connections

Cumulative Generation Summary (Jan 2018)



Reliability

Reliability of Supply

The Overall Reliability of Supply for the SHE Transmission System during 2016-17 was:

99.999925%

compared with 99.999987% in 2015-16 and 99.99452% in 2014-15.

Even though we have been building all of these large infrastructure projects over the past few years we have still maintained a reliable network

Number of network incidents resulting in customers having a supply interruption

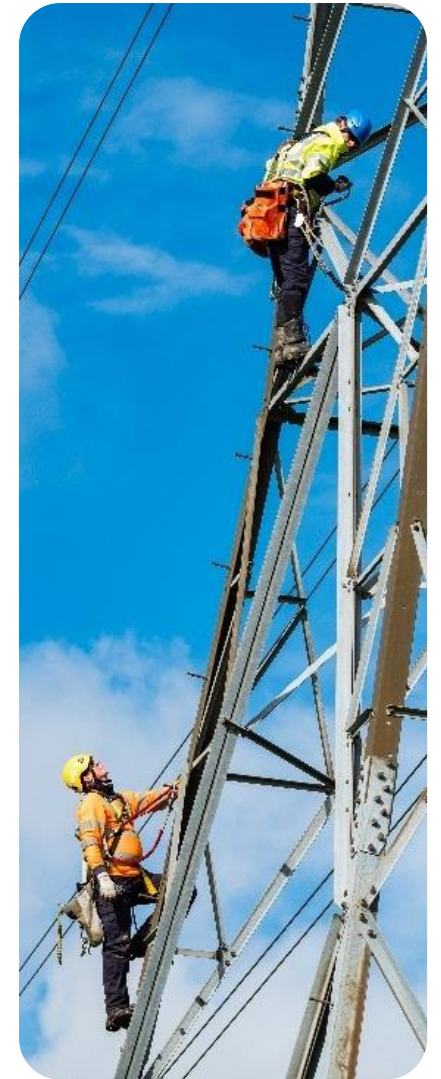
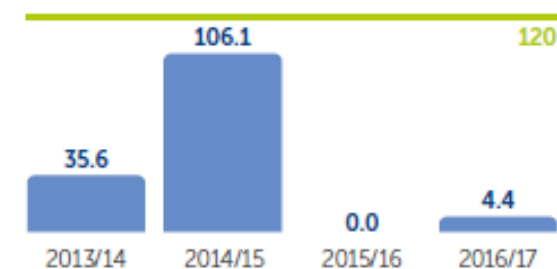


Reliability

The energy not supplied to customers (in MWh) due to an incident on the transmission system. Our target is for this to be less than 120 MWh each year.

Actual Target

Energy not supplied (MWh)



Roundtable Discussion



Session Two

Stakeholder engagement and reporting

Session Overview

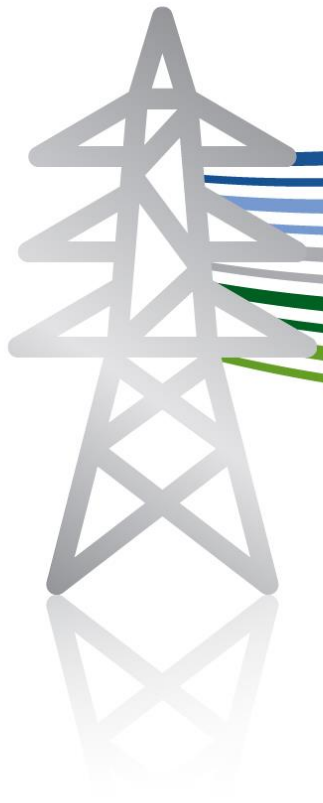
Two parts to this session

- Part 1 – “Getting Involved”: How we engage with stakeholders
Questions & Round Table Discussion
- Part 2 – “Reporting”: How we share information about our activities
Questions & Round Table Discussion

Coffee break to follow

Part 1 – “Getting Involved”: How we engage with our stakeholders

Alec Morrison, Customer & Community Manager



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Face-2-Face

Community Liaison Events

Primarily focussed on project development and construction related activities.

- Reinforcement of Argyll
- 220kV Subsea link to Orkney
- New 132kV circuit to Skye

Over the last 12 months we have held over 60 events across the North of Scotland.

Customer Events

SSEN Transmission events or attendance at 3rd party events (e.g. NGET Customer Seminars).



Bi-lateral Meetings

- Both formal and ad-hoc
- In excess of 300 meetings per annum

Consultations, Workshops and Industry Groups

Consultations

- Scenarios
- Projects
- Policy
- Strategy

Workshops

- Future Energy Scenarios Workshop

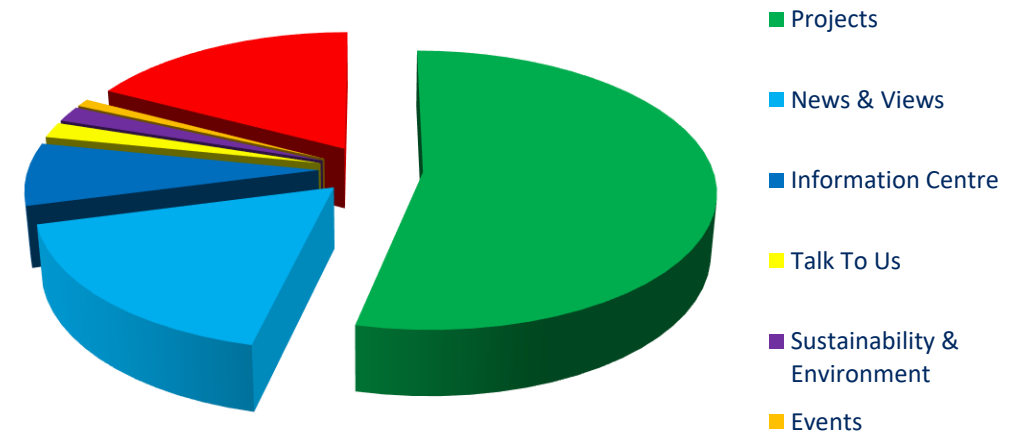
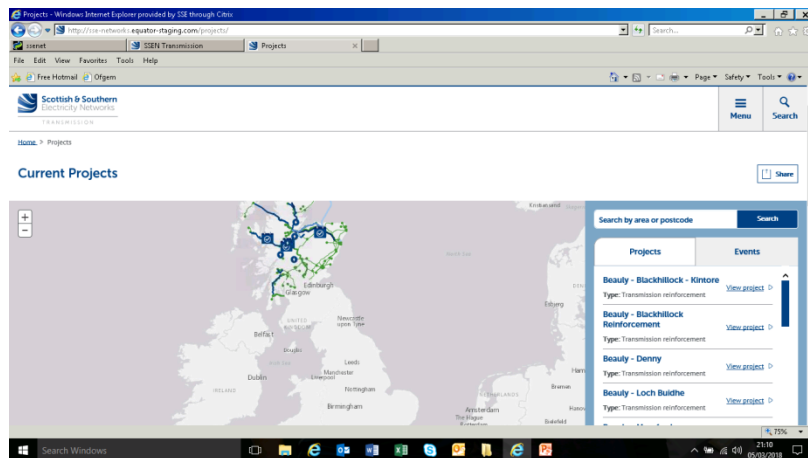
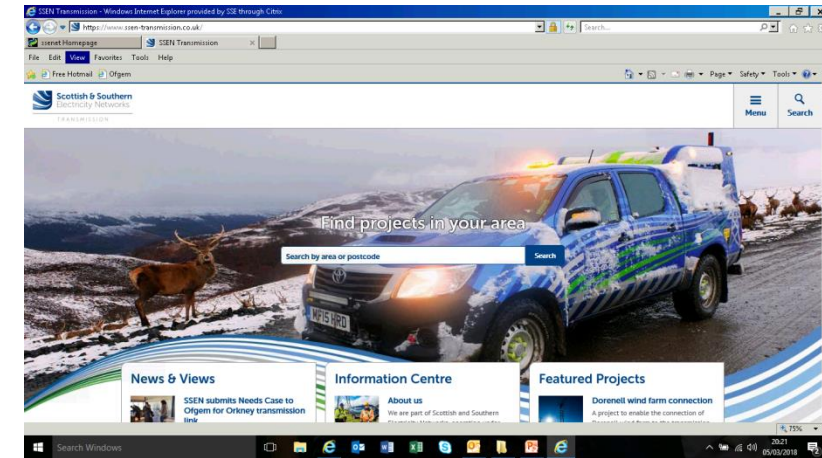


Industry Groups

- Argyll & Bute Renewable Alliance
- Scottish Islands Renewable Delivery Forum
- Scottish Infrastructure Circular Economy Forum
- Western Aberdeen Pylon Action

Our Website

- 110,000 page views over last 12 months
- 73,000 New Users & 37,000 Returning Users
- 25 – 44 (c50%) most popular age bracket
- 75% of visitors are male
- 81% of users based in UK



Social Media

The Facebook logo, consisting of the word "facebook" in white lowercase letters on a dark blue rectangular background.

46 transmission related stories posted in 2017/18
6 stories made it in to the SSEN Top 10
Videos with text (shorter the better) proved the most popular
75,000 “Like, Comment, Share” from 540,000 hits
70% of our Facebook Followers are based in the North

The Twitter logo, featuring the word "twitter" in white lowercase letters and a white bird icon, set against a light blue rectangular background.

80% of our Twitter Followers are based in the South
Transmission stories don’t tend to be picked up as frequently
22 stories and 1500 retweets

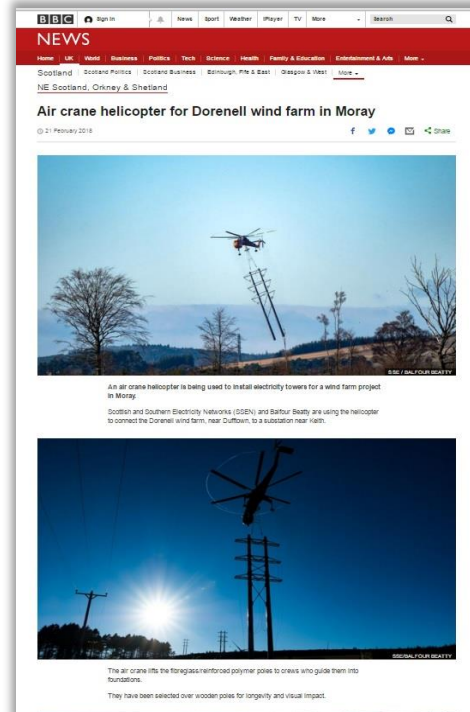
Press Releases

60 press releases over the last 12 months

#1 – “Flying in to pole position”

#2 – “Energisation of largest substation in UK”

#3 – “First subsea HVDC cable installation complete for Caithness Moray

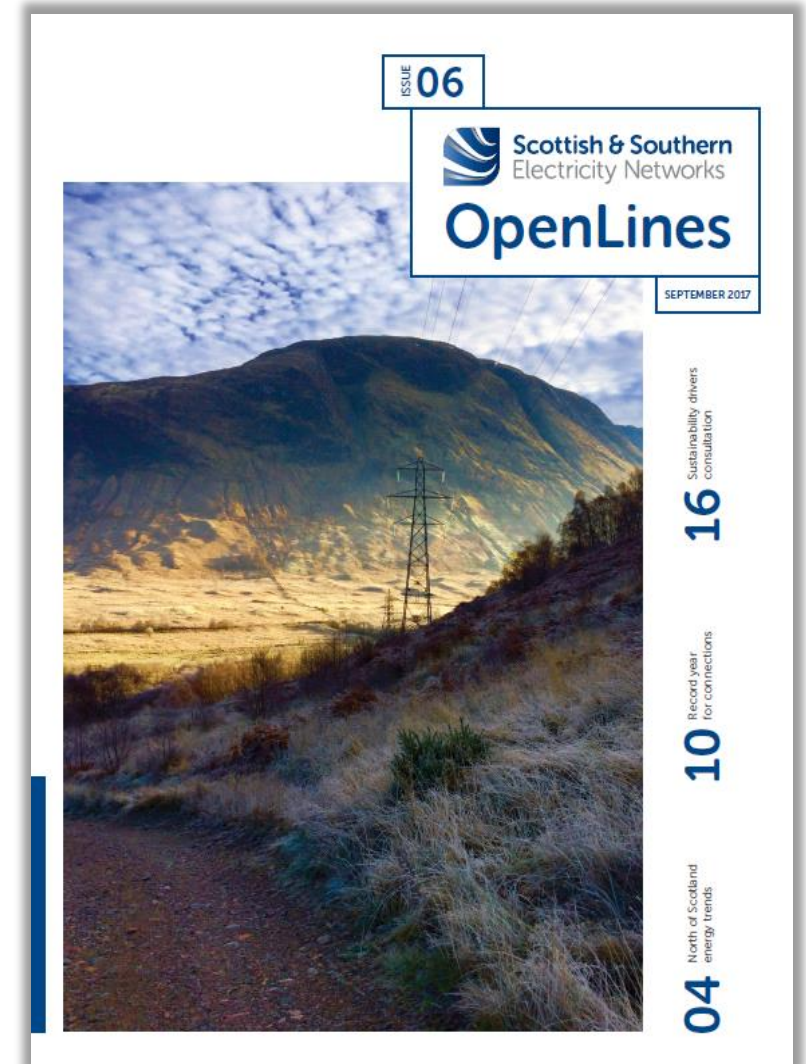


OpenLines Newsletter

- Outcome of stakeholder survey in 2014
- Desire for “more contact” and “more communication”
- 96% of stakeholders supported Newsletter idea
- OpenLines launched in September 2015
- Inclusive community where ideas and knowledge can be shared



In March 2016 we were delighted to hear that OpenLines was the winner of its category ('Best E-Zine') in the annual Scottish Institute of Internal Communication Scotland Awards.



Roundtable Discussion



Part 2 – “Reporting” :

How we share information on our performance

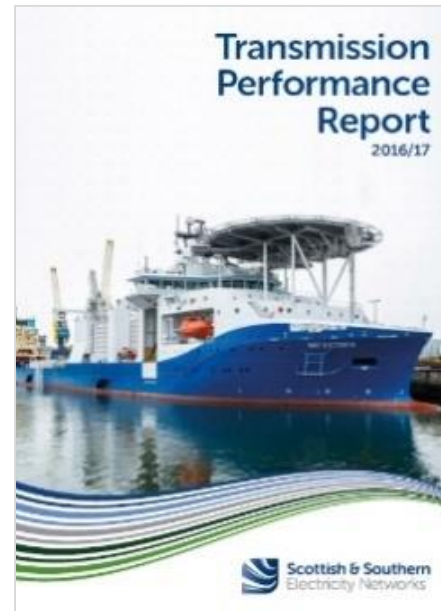
Michael Blake, Performance Manager



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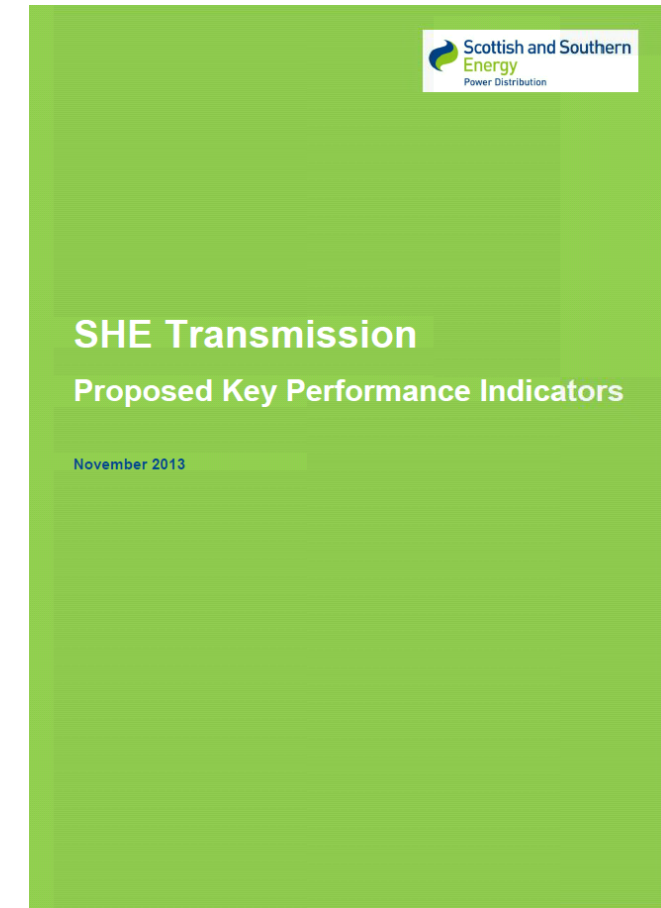
Publication of Reports

- Annual Performance Report
- Stakeholder Engagement Part 1 & 2
- Environmental Discretionary Reward



Key Performance Indicators

- Existing suite of 19 no. Key Performance Indicators
- Purpose to assess the quality of service we provide to customers and stakeholders
- Linked to 7 no. RIIO-T1 Business Plan Commitments
- Introduced in 2013



Proposed new suite of Key Performance Indicators

Operations

- Reliability of supply
- Transmission network outages taken within 2 weeks of planned start date
- Actual outage duration vs planned outage duration

Construction

- Reportable safety incidents to our staff, contractors and the general public
- Reportable environmental incidents as a ratio of the man hours worked
- MW connected during the year vs plan
- Number of projects completed on or under budget

Customers

- Timely submission of connection offers to System Operator

Engagement

- Volunteering days donated to the community
- Complaints resolved within 30 days
- Achieve a Stakeholder Engagement Reward score of > [X]

Roundtable Discussion



Coffee Break



Session Three

Planning for the future

Part 1 – “What next?”

Aileen McLeod, Head of Business Planning and Performance



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PURPOSE

To provide the energy that people need in a reliable and sustainable way

- i. Planning ahead for future needs; making timely, cost effective investments
- ii. Looking after the existing transmission network to maintain reliable supplies
- iii. Operating in a safe, sustainable manner

OBJECTIVE

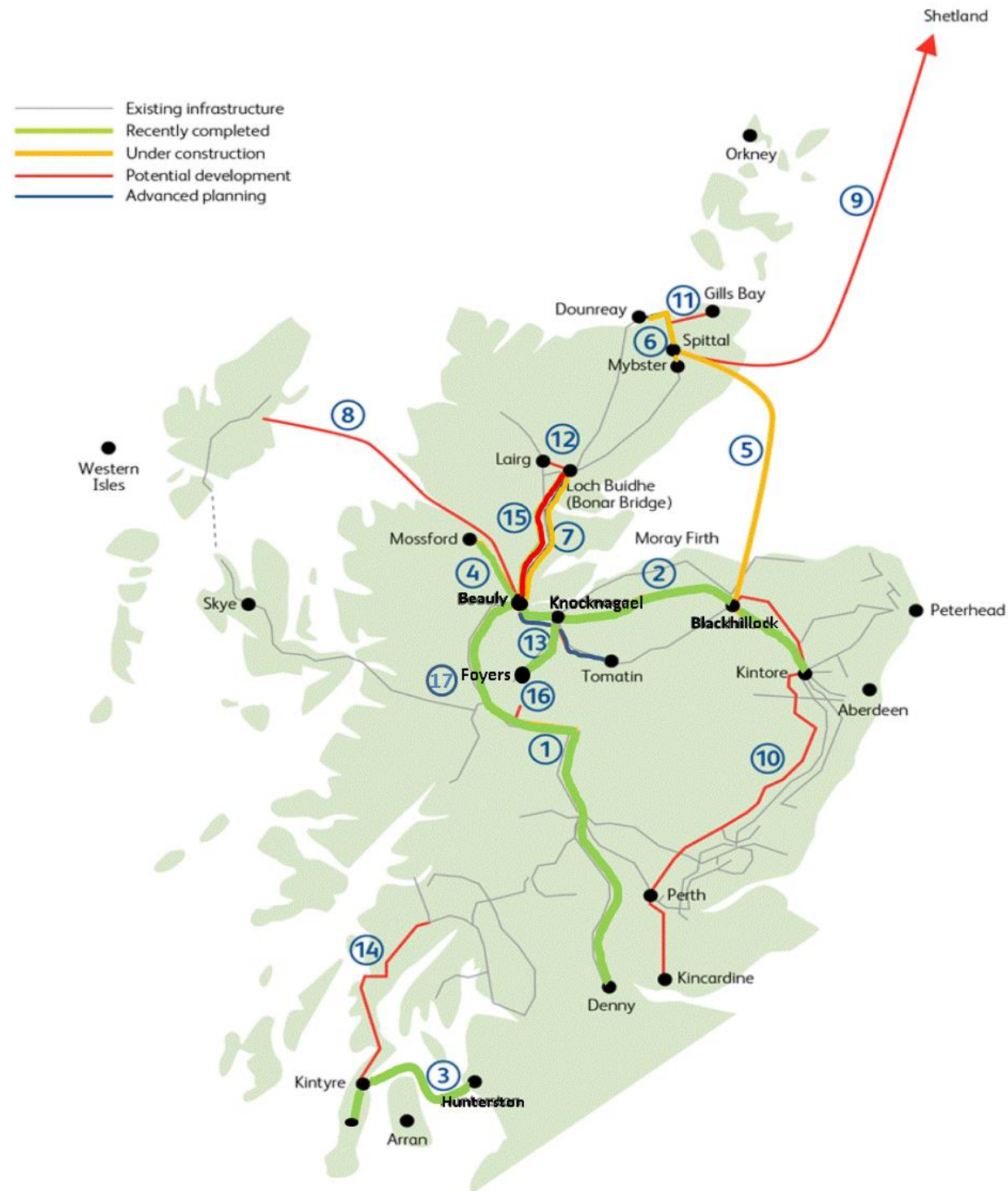
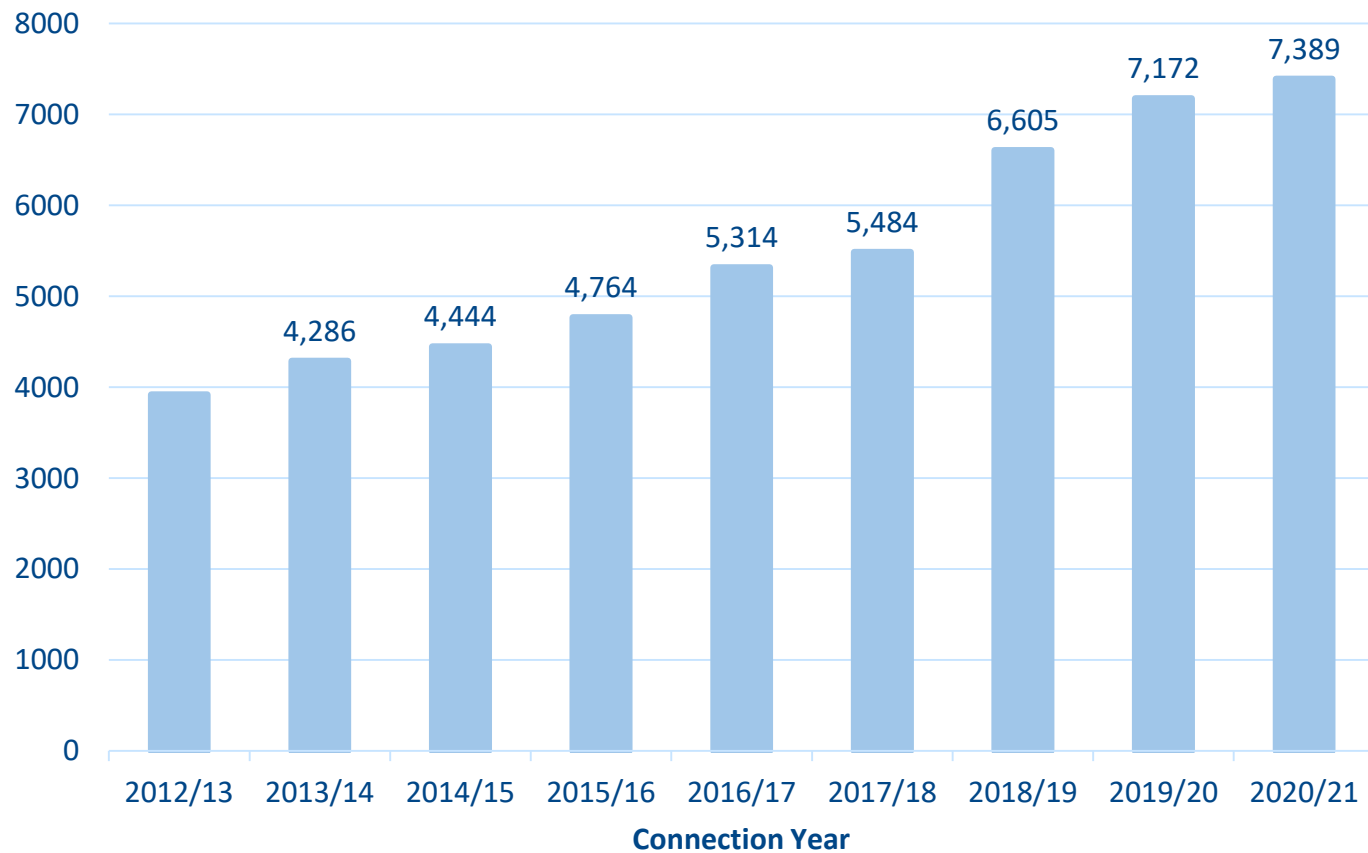
To enable the transition to the low carbon economy





2007-202? = GROWTH

Cumulative Generation (MW), Jan 2018





GENERATION

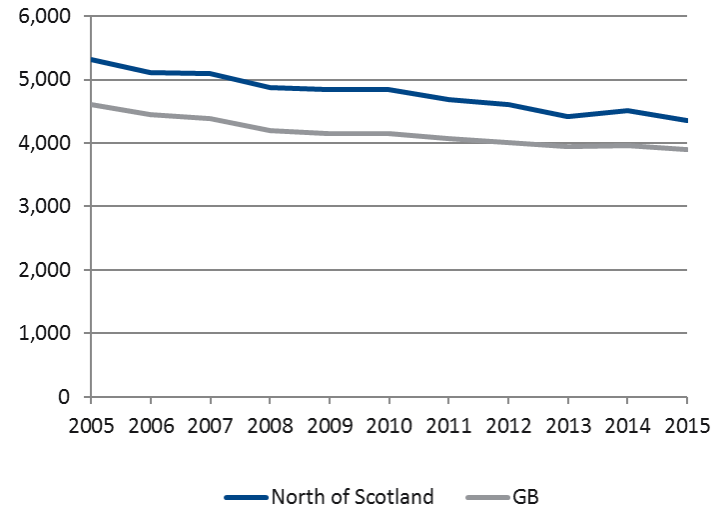


The future of onshore wind in Scotland?
Wind located on remote Scottish islands?
Sites for further offshore wind in Scottish waters?
Interconnection with Norway, Iceland or other places?
The potential for energy storage using water, hydrogen, batteries or other technologies?
Maintaining a 'no nuclear' stance?
Possible construction of Carbon Capture and Storage scheme(s)?
Continued growth of community-scale energy systems?

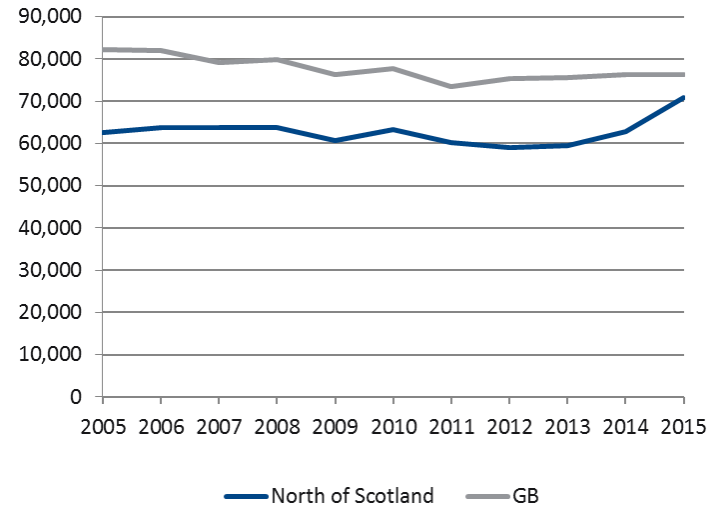
DEMAND



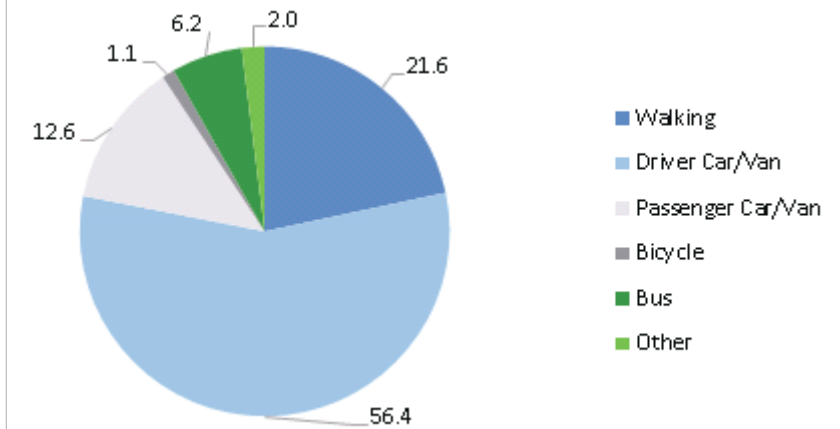
Domestic Consumption



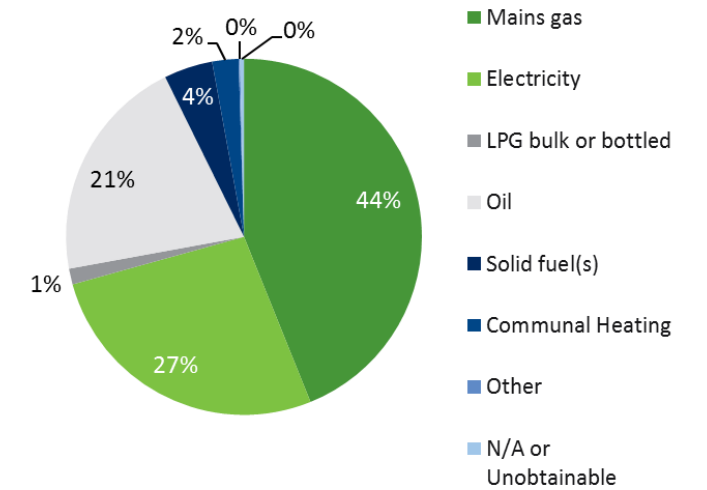
Commercial Consumption



Modes of Transport



Domestic Heating





Roundtable Discussion



Part 2 – “A sustainable business”

Aileen McLeod, Head of Business Planning and Performance



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“But hitting our carbon budgets and expanding the low carbon economy will not be easy. We have achieved **significant results in the power** and waste sectors and now need to replicate this success across the economy, particularly in the **transport**, business and industrial sectors. We also need to reduce the emissions created by **heating** our homes and businesses, which account for almost a third of UK emissions. If done in the right way, cutting emissions in these areas can benefit us all through **reduced energy bills**, which will help improve the UK’s productivity, and improved air quality, while the innovation and investment required to drive these emissions down can create more jobs and more export opportunities.”



Scottish Energy Strategy: The future of energy in Scotland



December 2017



Scottish Government
Riaghaltas na h-Alba
gov.scot

“Scotland’s electricity production has **changed** enormously since the turn of the century, sparked by the huge and welcome increase in new **renewable generation**. We are well on the road to fully decarbonising our electricity system in Scotland. The challenge facing us now is to ensure a similar decarbonisation of our energy requirements for **sustainable transport** – and to deliver a well-balanced system capable of providing **secure and affordable energy** to meet Scotland’s needs.”



Clarity in long term ambitions:

1. Mitigating climate change using a science based target
2. Net positive impact on the natural environment
3. Social remit for people and communities



A responsible and fair operator:

1. Member of society
2. Employer
3. Service provider and developer





GETTING THE BALANCE RIGHT

No decision is 'cost free', so SHE Transmission must make trade-offs between the impacts on a range of factors such as:

Cost to customers

Impact on local communities

Economic impact (local / national)

Environmental impact

Consequences for staff

Security of Supply

The direct impact upon energy bills

Of new infrastructure or construction works

On jobs or expenditure in businesses

Air, water, wildlife or amenity

Such as quality of work, pay and opportunity

Risk of interruption to supply

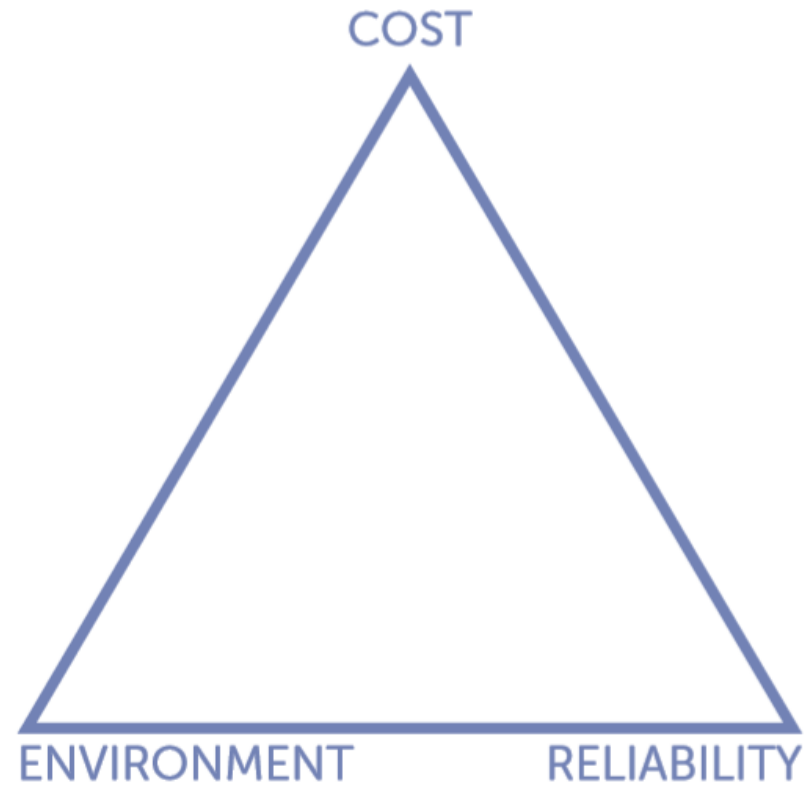


Roundtable Discussion



Revisiting the trilemma

Where do you think the balance of the trilemma factors will be?



Session Four

Q&A and close

Afternoon sessions

- Future Energy Scenarios
- Connections
- Portfolio
- Outage Planning