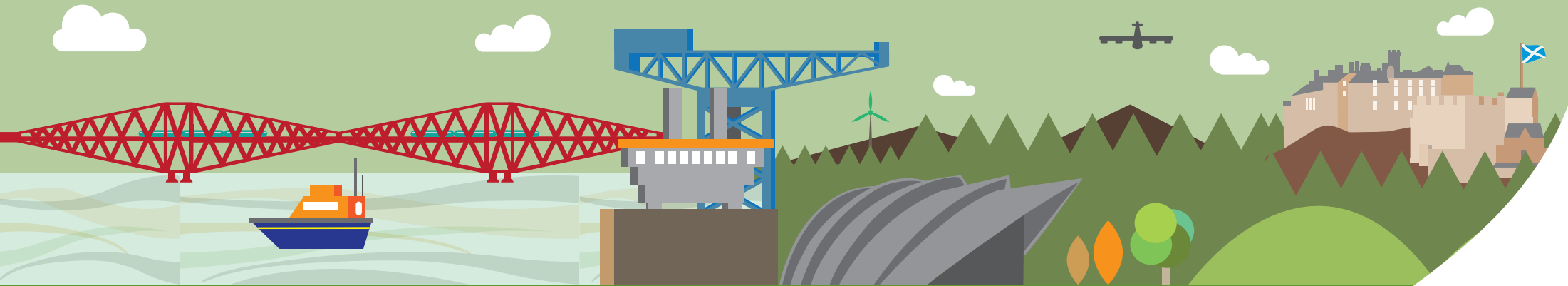


# SP Energy Networks 2013-2014

Electricity Transmission  
Stakeholder Engagement  
Submission Part 2





## Outcomes of our engagement - CEO Statement

As the transmission network operator in the south of Scotland we have a pivotal role in helping to deliver a low carbon energy sector. Our network is central to getting new renewables connected, and getting the bulk power flows to market. This is a dynamic and challenging environment, reliant on effective engagement and collaboration. The quality and diversity of our stakeholder engagement is making a tangible difference to how we meet these challenges.



We are the licensed Transmission Owner (TO) for the Central and Southern Scotland. We provide transmission services to National Grid, who as the GB System Operator (GSO) then provides transmission services to generators, electricity suppliers and large customers. Our engagement with our stakeholders reflects our role in this electricity supply chain.

Our transmission network comprises of over 4,000km of circuits and 130 substations operating at 400kV, 275kV and 132kV. Our network is key, UK strategic asset facilitating the bulk transfer of power from thermal generating stations to large urban load centres. It is now also instrumental in facilitating the transition to a low carbon energy sector by connecting renewable generators, and building the network to get this power to market.

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

Our approach to stakeholder engagement is embedded within this vision, and reflects the diversity of interests and challenges we face. It also reflects our role in the industry. Compared to our distribution business, we have a much smaller number of customers, who are generally direct participants in the wholesale market – including many smaller renewable generation projects, seeking to enter the market. We also engage much more extensively with other network operators, most notably National Grid, in developing and delivering high quality transmission services. And we engage with local communities where our network has an impact.

In this portfolio of examples we demonstrate the depth and variety of engagement activities, and how they are

making a difference. They also illustrate how we are building on what we learn, and making improvements to how we engage – in a structured, and managed way. For example:

- Our South West Scotland Forum is unique in bringing together all affected windfarm developers, giving them the same information on the progress of the new network construction and providing a forum to discuss and debate issues.
- Our pro-active engagement with communities and local representatives near Hunterston power station, to share information and provide support about subsea investment plans in the area.
- Our collaboration with academia and technology companies to develop and deploy new network and IT solutions to create smarter and more resilient networks.
- Our industry-leading engagement on electrical safety, prioritising schools, the agricultural sector and metal theft – and working with a wide range of partners.

We are committed to improving further, and are making the necessary investments in system and process – and expertise – to support this. We are therefore confident that we can work with our stakeholders to build on these successful examples of engagement and collaboration in the future.

**Frank Mitchell**  
CEO, SP Energy Networks



Raising awareness - Social media infographic

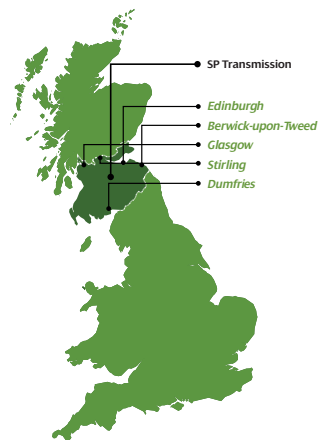
	Transmission (Central and Southern Scotland)	Distribution (Central and Southern Scotland + Merseyside, Cheshire, N Wales, N Shropshire)
Cable length	4,300km	105,000km
Substations	130	30,000
Connected Customers	37 <small>e.g. major electricity users and large generators</small>	3.5 million <small>e.g. homes, businesses, industry and distributed generation</small>
Stakeholders	400	2400

## Independent stakeholder engagement opinion (DNV GL)

"SPEN has continued to update its stakeholder engagement strategy to ensure alignment with business objectives. The strategy contains a clear aim, defined benefits for both SPEN and stakeholders as well as engagement priorities for both Transmission and Distribution stakeholders.

Improvements were observed in the updated stakeholder engagement strategy in 2013, particularly related to the incorporation of pillars of SPEN's strategy, and the inclusion of the feedback loop within the pillars, which was identified as an area for improvement last year.

There is a clear governance structure defined within the strategy, as well as processes for ensuring stakeholder engagement priorities are still valid. A process has also been established for embedding the strategy within both Transmission and Distribution businesses, which recognises the inherent differences between these parts of the business. The formation of the cross-functional internal stakeholder action group (ISAG) is a key part of the governance process."





## Connecting new generation – working together to deliver solutions

This case explains the how we engage with developers of new generation projects and with other transmission businesses, to develop practical solutions to some of the challenges of connecting new generation capacity. It also shows how we bring together generators with a common geographic interest to keep them updated on issues that affect them all, involving the other stakeholders in the process to provide a fuller picture.

### The challenge

Any project to connect a new generator to a transmission network is a complex and costly undertaking. Managing large volumes of connections, co-ordinated with National Grid heightens this complexity. Our challenge is to help manage and deliver connections fairly, efficiently and to keep stakeholders informed.

### The outcome

- We developed and implemented a new land rights policy that better meets our stakeholders needs; changing our requirement for generators to provide a 99 year land lease, to a lease period commensurate with their project - a significant change.
- We delivered connection offers early to National Grid, for the first time by working to improve our process efficiency – which in turn provided the opportunity for these customers to get a quicker connection offer.
- We developed a joint action plan with National Grid and identified actions as a result of sharing customer/stakeholder survey results in areas of overlap; joint approach to presentation at National Grid's Customer Seminars and the introduction of an agreed point for providing a customer update during the 3 months connection quotation process.

### How we engaged

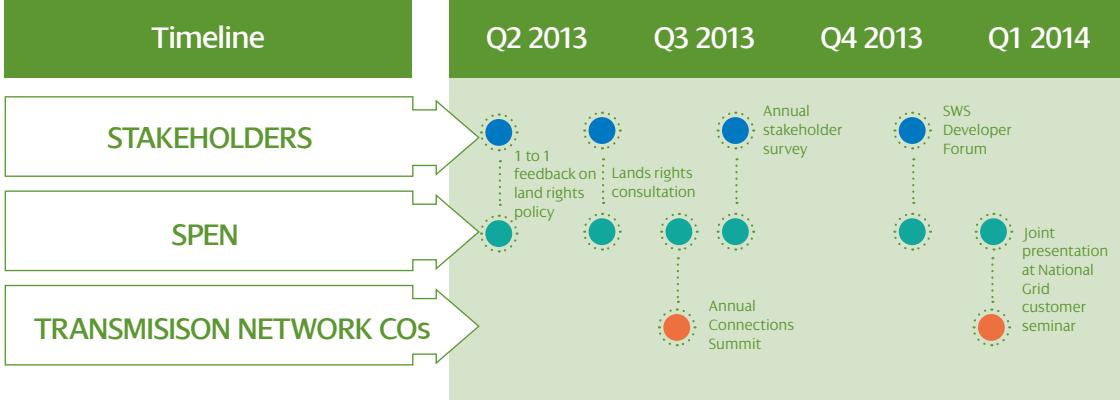
- We hold an annual connections summit to create a forum for parties involved in connecting to our network. We provide updates on the wider infrastructure upgrades that affect them all to improve the understanding of the process and share barriers to enabling new renewable connections. Our land rights policy was a key issue expressed here.
- We host a regular regional forum for developers in South West Scotland where 11 developers and 1,500MW of renewable capacity is connecting to the network. All developers regularly attend as well as the Scottish Government's consenting unit to help explain the parts to the complex process. We update on progress against issues and also give early sight of potential delays.
- We conducted a process efficiency audit of our connection offer process, introducing new milestones, controls and checks to improve the timeliness of connection offers.
- Our annual survey tells us that customers are confused by the three-way relationship between the transmission owners (SSEPD/SPEN) and transmission operator (NGET) and in particular how that affects their connection to the network. The three companies established a 'Working Together Forum' with the purpose of improving the experience of customers and stakeholders through sharing survey results and agreeing joint actions.

### Feedback views and data

*"They host forums e.g. special users by SWS collector. Focussed user group forums are beneficial"*

(Stakeholder survey 2013)

### Timeline



### Monitoring

- Annual stakeholder survey.
- KPIs, agreed with National Grid to measure performance in the delivery of new connections.
- South West Scotland developer forum feedback forms.

*The South West Scotland Forum is unique in bringing together all affected generators, giving them the same information on progress. All developers regularly attend demonstrating the value they place on the forum.*

*"I feel that SP Transmission are listening to the feedback I am giving and acting on it"*

4 out of 5 stakeholder agree (Average score at SWS developer forum)





## Connecting new generation – building a shared understanding of issues and challenges

This case explains how we engage with stakeholders to enable the significant and strategic challenges, which are associated with supporting the connection of large-scale renewables to the Transmission network, to be understood and debated, and ultimately planned and delivered at efficient cost to end consumers. A typical connection to the transmission network can take around 4 years to deliver and if additional works are required to strengthen the surrounding network this could extend the period to around 7 years.

### The challenge

The transformation of the generation mix in Scotland towards renewables poses significant challenges for the planning and delivery of supporting transmission investment due to where these are located. A key challenge is to remove barriers to delivery by working with the range of stakeholders involved in the planning process. In particular those bodies who will be involved in the decision making process. Gaining access to land to construct is a key problem that we face as a Transmission network operator.

### The outcome

- Working with the Scottish Government, we have improved the consenting processes and procedures to make reaching a consent decision more efficient, with publication of new guidance and a revised procedure for the process of gaining land rights (Wayleaves) to build new infrastructure.
- Statutory stakeholders are now armed with an earlier and deeper understanding of our future planning requirements and are better placed to prepare their teams. We initiate much earlier communication with the Scottish Government and key stakeholders to inform them of our plans and programmes, well in advance of statutory timescales for actual applications.

### How we engaged

- We were instrumental in establishing an Energy Upgrades Forum, chaired by the Scottish Government, and attended by key stakeholders involved in the consenting process. The group considers how to improve key processes which may assist in reducing the consenting timeline, improves engagement across strategic and operational levels and supports government in meeting the long-term energy challenges.
- One such process was to address the time taken to gain necessary wayleaves

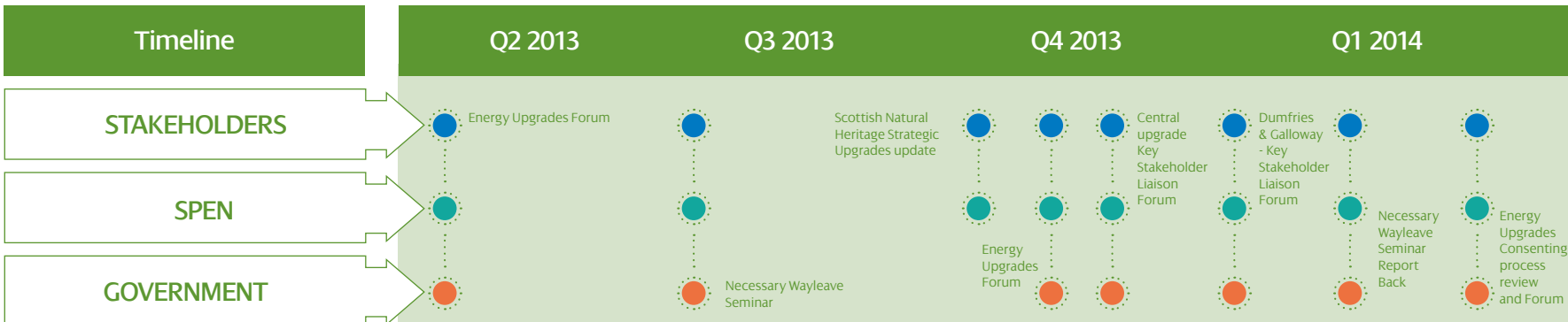
in the event that voluntary agreements cannot be reached with landowners. A workshop was held with the Scottish Government, with the aim of improving the process for consent applications.

- We have instigated Key Stakeholder Liaison Forums for both our major strategic upgrades in Dumfries & Galloway and Central, taking learning from previous major projects. These forums, chaired by the Scottish Government, further develop the work of the Energy Upgrades Forum, but are specific to the projects and

involve key stakeholders from the relevant geographic areas.



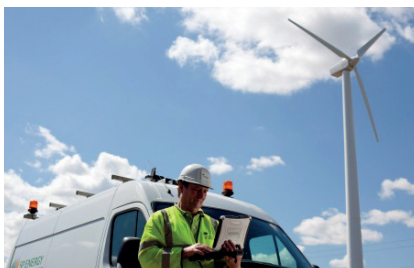
### Timeline



### Feedback views and data

*Our network has 56% of Scotland's transmission connected renewable generation but all Scotland's renewable generation has to flow through our network to reach demand centres in E&W*

*We recognise the benefits of engaging with all stakeholders involved in the development of our infrastructure proposals on a variety of issues from consenting processes to local issues relating to the siting of our infrastructure.*



### Monitoring channels

- Monthly Executive Update.
- Energy Upgrades Forum.
- MWs connected capacity.
- MWs additional transfer capacity.



## Understanding and supporting the needs of our existing customers

This case explains how we build an understanding of what our demand customers need – and how we work together to improve the service we deliver. As a transmission business, we have a relatively small number of customers with very large and varied demands. We have 17 demand customers, the biggest of which is our own distribution network operator SP Distribution, with 91 connection points to our Transmission network. We also have 20 large generation customers. The engagement tools we use are therefore shaped for specific customers or situations.

### The challenge

Each of our customers has different operational and service needs, and often themselves have large and complex operations that rely on electricity. The challenge is to tailor the forms of engagement to provide effective support and co-ordination. Our stakeholders have previously told us that security of supply is important. This was reinforced in our annual stakeholder survey when 88% of respondents agreed that improved processes for maintaining security of supply was still a top priority area.

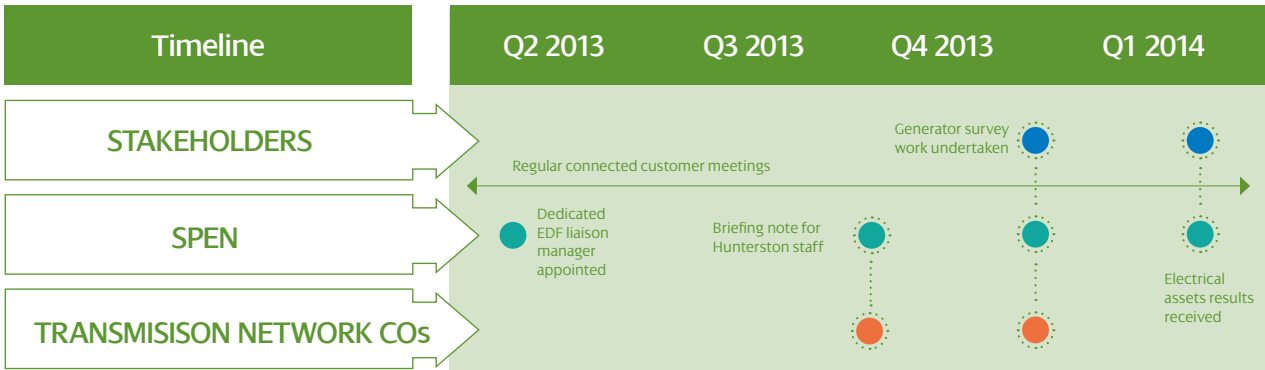
### The outcome

- To reflect EDF's plans to extend the life of their assets, we undertook a survey of our electrical assets within their nuclear facilities to identify ways to extend their life.
- Created, with EDF, a briefing note for staff at Hunterston explaining how some of our work may impact on daily operations.
- Previously, all operational communications with Network Rail would be routed via formal channels. We have now put in place new procedures which allow our control room engineers to speak directly to the teams working at the track; removing a layer in the process.
- Demolition at one site could have caused dust and vibration levels that affected our equipment and the surrounding network connected to it. We knew about the demolition work early through the regular liaison meetings, allowing us to plan installation of vibration monitoring, satisfying ourselves that our equipment and the local network could continue to operate normally during the demolition.
- Adoption of the Network Access Policy (NAP) means generators are getting better information about outage plans that will affect them. A joint survey of generators views on outage planning has been conducted to measure progress and identify further areas for improvement.

### How we engaged

- We believe the best approach to engagement with our connected customers is to arrange individual meetings, where issues which affect our customers can be discussed in detail. We have formalised the operational contact programme and introduced a KPI to ensure regular contact on a frequency that suits the particular customer.
- We identified that one of our larger connected customers, EDF, would benefit from closer engagement due to the level of interaction between our investment and their plant and so a dedicated liaison manager was put in place, who now manages all interfaces between us, National Grid and EDF around Hunterston and Torness nuclear facilities. A future investment review group meets every two months to provide a regular focus.
- Along with NGET and SSEPD, we have surveyed generation stakeholders regarding outage planning information provided under the NAP to understand where we can improve.

### Timeline



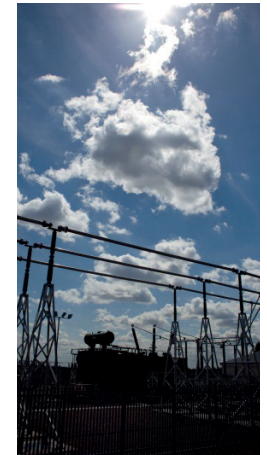
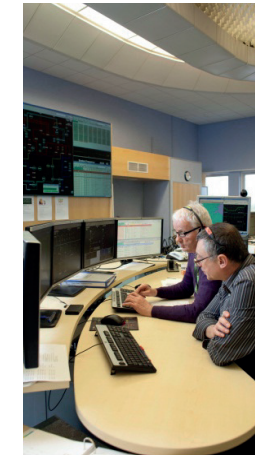
### Feedback views and data

*"One thing we recognise is that... (they)... are trying to improve things. We now have a dedicated manager to deal with the uniqueness of our site"*

Quote from Stakeholder survey 2013

*"It's about proactively managing relationships to obtain more clarity and structure of information"*

Quote from Stakeholder survey 2013



### Monitoring

- Annual stakeholder survey.
- Annual contact programme KPIs.
- Key issues log for EDF.
- Risk register for EDF.



## Working with communities affected by our investment plans

This case illustrates how we plan and deliver stakeholder engagement where our investment plans impact on a particular area or set of communities. It explains how we build links and provide information, and how we engage to refine our plans to better serve the interests of all stakeholders. It shows how we are consulting with communities on visual mitigation measures for new infrastructure.

### The challenge

When we need to develop our network there will inevitably be some disruption, and some enduring impacts. The challenge is to help local communities understand the purpose of the work and minimise any adverse impacts on local communities both during construction, and on an enduring basis.

### The outcome

- We have secured applications for over 30 visual mitigation projects from communities and stakeholders which will provide enhanced mitigation of the electricity towers and lines that affect their communities. For example, plans for a new cycle-walking route, and several parks along the route of our new Transmission line in Central Scotland.
- A more joined-up flow of information to communities affected by network investment in Hunterston, achieved through joint communications from all network owners (including newsletter, video and web-links); appreciating that the community does not differentiate the work. Joint public events, minimising the number of events locals have to attend to find out what's happening.

### How we engaged

#### Green Network visual mitigation

- After approval was granted for a major new Transmission line in Central Scotland, we formed a partnership with Stirling Council, The Scottish Government and Central Scotland Green Network. This partnership group meet on a quarterly basis to make decisions on the green network scheme.
- The Beauldy Denny Legacy Steering Group was also formed to capture and focus the views of communities, political stakeholders and Stirling Council. We presented information about the Green Network and the wider project to members in order that this could be fed back to communities or interested parties.
- We promoted the Green Network process at 5 community council meetings, 2 public drop in events, 4 workshops with community councils and 3 workshops with public bodies and local interest groups.

#### Co-ordinated community engagement

- Within the Hunterston area there are several electricity infrastructure improvements underway including our delivery of a first of its kind subsea transmission connection. Not all works are related but they all impact on the community. To provide a holistic approach in the communication of information to the wider Hunterston community we established a joint Community Liaison Group to engage and inform communities across the area. This cohesive approach to communicating enabled us to deliver a joined up approach and produce communications material which tell the whole story.
- We hosted 2 joint public information events at Hunterston which have been invaluable as we work through the various stages of physical development, at a time when workers and contractors are highly visible.

### Feedback views and data

*"Thank you for giving so much commitment to our Green network event...I hope that you and the rest of the team felt that it was worthwhile and that we captured some good ideas."*

Chair of Polmaise Community Council

*"It is a great opportunity to benefit all local communities."*

Friends of Plean Country Park

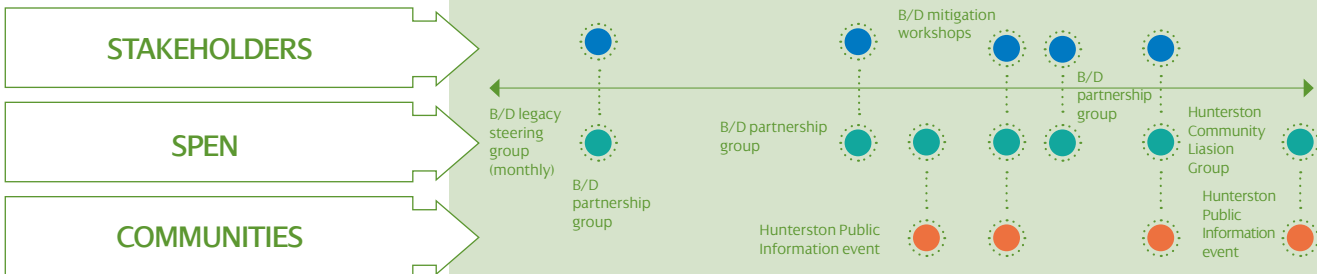
*The HVDC project at Hunterston and the Beauldy to Denny Transmission overhead line are essential in helping Scotland achieve its energy potential.*

*Hunterston HVDC project is a joint venture between SP Energy Networks and National Grid, whilst Beauldy Denny has been closely developed with SSE Power Distribution.*

### Monitoring

- Monthly Executive update.
- Community Liaison Group feedback forms.
- Green network feedback forms.
- No. of Green Network projects.

### Timeline



Northern connection newsletter autumn 2013

**Introduction**

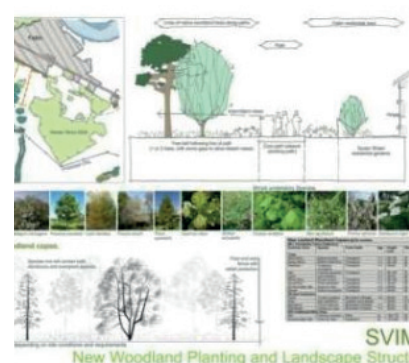
ScottishPower Transmission and National Grid have come together in a joint venture to build the Western Link, a £1 billion undersea cable project which will take renewable energy from Scotland to homes and businesses in England and Wales. This newsletter provides an update on what we're planning in Scotland.

**Energy challenge**

At ScottishPower Transmission and National Grid, our job is to connect people to the energy they use - whether to heat and light their homes, or to keep factories and offices going. But because older power stations are closing and the UK needs to cut greenhouse gas emissions, huge investment is needed now.

**The Western Link project**

The Western Link will transmit up to 2,200MW (megawatts) of direct current (DC) electricity from Scotland to England and Wales, bypassing the bottlenecks on the existing national transmission network. Because the electricity we use in our homes, schools and offices is alternating current (AC), we need a converter station at each end of the link to change the electricity from DC to AC before we can use it.





## Proactively engaging with Transmission stakeholders through multiple channels

This case illustrates how we have developed and opened new communication and engagement channels with our Transmission stakeholders. Stakeholders express preference for a range of communication channels, depending on the level of engagement they want.

### The challenge

Our challenge is to provide a number of channels for engagement that suit the stakeholder's preference. We have built on our operational engagement with more proactive engagement, through a range of mediums. Whilst some prefer face to face contact (at meetings, at our events or at the events of others), other stakeholders prefer digital communication.

### The outcome

#### Newsletter

- We delivered our first, and committed to continuing to deliver, an annual e-newsletter to our Transmission stakeholders.

#### Stakeholder events

- We host our own regular stakeholder events and reach out to stakeholders who we are less familiar with the complex electricity market by attending a range of conferences and industry events that our stakeholders are likely to attend.

#### Conferences

- We don't just attend, we deliver presentations to help keep stakeholders informed, we take part in panels and at key conferences with a high volume of stakeholders (Scottish Renewables, Renewable UK, Low Carbon Networks Conference) we have senior employees available on a stand to interact directly with stakeholders.

#### Website

- We have developed a brand new look to our website and completely re-organised the navigation, to make it easier for Transmission stakeholders to find the information which matters to them.

#### Social Media

- We have launched two new social media channels, on Twitter and Facebook, and are now sharing news of our investment and engagement with wider audiences, for example we've shared our HVDC investment, our attendance at the Scottish Renewables conference and our consultation on our Sustainability Strategy. We also benchmarked against networks companies in other countries and created a series of infographics to share some of our key messages as a result.

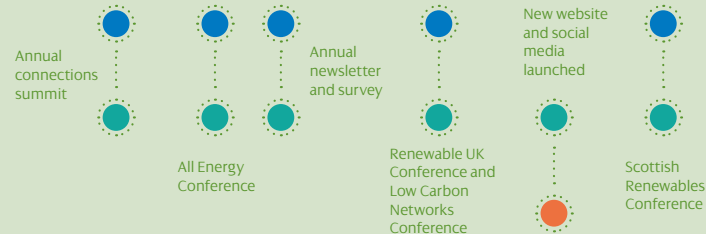
### Timeline

STAKEHOLDERS

SPEN

COMMUNITIES

Q2 2013      Q3 2013      Q4 2013      Q1 2014



### How we engaged

- As part of our annual survey we asked stakeholders which methods of engagement they preferred. We found that most of our stakeholders were using multiple communication methods. Some comments suggested more proactive engagement would be welcomed and we are making ourselves more available at events where our stakeholders attend.

- At every conference or event we attend, we will attempt to ensure there is a representative from every relevant part of the business (future networks, connections, etc.) and where stakeholders have a specific enquiry which can't be resolved on the day, we'll take it back to the relevant person in the business.

- We continue to host our successful South West Scotland Scotland forum and Annual Connections Summit.

### Feedback views and data

#### Social media following

*Twitter*  
1,236 individuals, 294 organisations and media

*Facebook*  
226 individuals

### Monitoring

- Annual stakeholder survey.
- Engagement levels and number of followers on social media tracked.
- Hits to new website pages.
- On-line consultation surveys.
- Analytics on e-bulletins.





## Promoting electrical safety

This case illustrates how we tailor and adapt our engagement on electricity safety, across a wide range of target audiences using a variety of channels. It highlights how we link our activity to data on safety risks, commensurate with the strategic priority we attached to promoting electrical safety.

### The challenge

High voltage electricity network can represent risks to public safety. The challenge is to identify and deliver effective information, advice and support to minimise risks. Two thirds of our £2.6billion investment over the next 8 years is on the construction of new network and one third is on refurbishing the existing network. The scale of this work heightens the risk of contact during the construction/refurbishment, and also after, as new network exists where previously it didn't.

### The outcome

We provide a free "check for safety" service where we respond to calls from employees, contractors and members of the public to assess safety of those working in close proximity to overhead lines. We doubled the size of the team responsible for carrying out the assessments and in 2013. We promoted our free service to our contractor workforce through internal events and to the agricultural community at the Royal Highland show. We had a record 577 calls to assess safety of transmission overhead lines and prevented potential fatal incidents. We will continue to promote this service. Instrumental in getting scrap metal legislative change added to the agenda of the Scottish Government to reduce incidents of metal theft.

### How we engaged

- We partnered with the Royal Highland Agricultural Society of Scotland to engage directly with the agricultural community. We hosted a safety exhibition at the Royal Highland Show illustrating the consequences of a power line strike with a visual pyrotechnic demonstration. Supporting safety articles in targeted press and a feature on BBC Landward consolidated key messages.
- We have continued our award winning PowerWise classroom electricity safety education programme, re-writing the website content to align it to the new curricula.
- We ran a major Metal Theft public information campaign, through posters and radio, highlighting the real and present dangers of theft from our substations.
- We were a major sponsor at the Scottish Business Resilience Forum's Metal Theft Summit. We addressed the audience and focused on actions we have taken and what needs to be changed in the future.

### Feedback views and data

*"..children were given a strong message on electrical safety which they will hopefully share with their adults at home. This talk will provide a stimulus for additional discussion on electrical safety",*

*Ms Miller P5/P6 Teacher, Robert Owen Memorial Primary School, Lanark.*

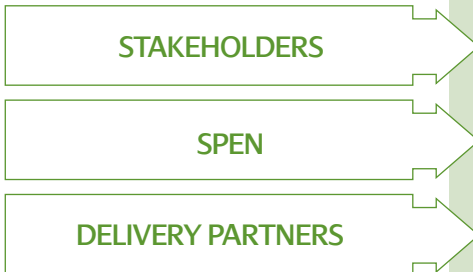
*"I would encourage farmers and farm workers to watch the Scottish Power demonstration at the Royal Highland Show and to read HSE's guidance on how to work safely. Operators should know what action they need to take in the event of a cable strike to ensure they minimise risks to themselves and others."*

*Alastair Mitchell, Agriculture Safety Team, Health and Safety Executive*

**Educating children**  
*PowerWise has now visited every willing primary school in our operating area, reaching over 500,000 children.*

**Metal theft increasing in Scotland**  
*Whilst we have seen a significant reduction in incidents in our England and Wales licence area (down from 503 in 2011 to 53 in 2013), incidents of metal theft continue to rise in our Scottish licence areas (up around 50% in the last year). We have therefore concentrated efforts on using our unique experience of also operating across England and Wales to work constructively with partner organisations to take further action in Scotland.*

### Timeline



#### Q2 2013

Powerwise reaches every willing primary school

Sourcing display

Agreed to take stand at Royal Highland Show

#### Q3 2013

Royal Highland Show

Finalised target media strategy

Lessons learned exercise

#### Q4 2013

Scottish Govt Metal Theft Meeting

Feature on BBC Landward series

Metal theft campaign

#### Q1 2014

Powerwise reaches 500,000th child

Metal Theft Seminar

Agreed to take stand at Royal Highland Show next year/Upgrades update



### Monitoring channels

- Monthly updates to Executive Team.
- Metal theft statistics monitored.
- Doubled size of team for conducting free safety checks and statistics monitored.
- Powerwise reaches 500,000th child.





## Creating a more flexible and resilient electricity network

This case illustrates how we work with industry stakeholders in the development of a more flexible and resilient network – using new and innovative thinking to reduce costs and minimise risk. It illustrates how we respond to stakeholder feedback by exploring and developing new network solutions.

### The challenge

Our significant upcoming investment in the Transmission network presents a timely opportunity to review working practices in a drive to improve efficiency. We recognise that this is best achieved by working together with our stakeholders to ensure the consequences of the deployment of new technology on the network are mitigated.

### The outcome

We ran a feasibility study at one of our major substations to look at the benefits of building new equipment adjacent to our current assets, rather than in the same position. Rebuilding assets within their current footprint can result in significant costs, as a result of penalties imposed due to the reduction in capacity on the network. Our engagement on the Networks Access Policy helped us to develop this new innovative approach, which we believe has the potential to half the cost of replacing major assets.

We are using our unique position as a Transmission and Distribution network operator to the benefit of our stakeholders and

customers. For example, at our 3rd largest substation, Sighthill, we were able to work on both the Transmission and Distribution network at the same time, minimising network risk and costs.

We are deploying innovative technology on our network, which will provide additional capacity without building new transmission lines. Series capacitors allow us to get more out of the existing system but can have other implications for sensitive generating equipment in the vicinity, so we have developed technical solutions in collaboration with EDF and GE to allow the deployment of our new technology for the benefit of all customers.

### How we engaged

We worked closely with National Grid, SSEPD and Ofgem to create a Networks Access Policy, designed to enhance communication in order to allow us all to accommodate the expected increase in work required on the Transmission network over the next decade whilst maintaining security of supply.

Over the past twelve months we have worked hard to fully integrate the policy right across our Transmission business. By planning ahead and working together in an integrated way, we have been able to align investment plans and deliver major projects simultaneously.

The policy has driven us to consider the feasibility of adjacent rebuild as a way of reducing constraint costs and has potential to be deployed over the next 8 years.

We worked closely with EDF Energy to establish the risk to their plant at Hunterston and Torness of the series capacitor technology and developed solutions to mitigate any potential impacts of the new technology, using the supply chain to come up with solutions.

### Timeline

STAKEHOLDERS

SPEN

PARTNERS

Q2 2013

Q3 2013

Q4 2013

Q1 2014

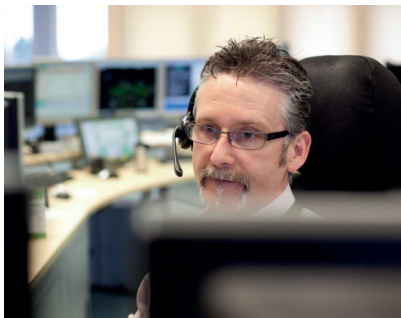
Cable diversion works to clear site for series compensation

Contract for series capacitors placed

Discussions with suppliers about monitoring equipment for series compensation

Feasibility study for adjacent rebuild

Ground works commence for series compensation



### Feedback views and data

*Installation of series capacitors and HVDC subsea technology allows increased transfer capability from Scotland to England through our Transmission system (from 2800MW to 6600MW).*

### Monitoring

- Monthly Executive update.
- Generator planned outage info survey.
- MWs transfer capacity.



## Preserving the natural environment and heritage of Scotland

This case illustrates how our engagement helps to promote and sustain Scotland's natural environment and heritage through targeted, inclusive actions – in a range of areas. Planning new infrastructure and involving stakeholders in the planning process provides an opportunity to mitigate adverse impacts and promote positive impacts. Extending this approach to refurbishment work brings further benefits to stakeholders.

### The challenge

Our transmission network is critical infrastructure for the economy, and for society. But it inevitably has an impact on the natural, and in some cases cultural, environment. The challenge is to minimise adverse impacts, and promote positive impacts – at acceptable cost.

### Outcomes

- At the historically significant St Andrews Cross substation, we developed a design strategy that met our health and safety requirements, yet ensured the building's original features would be enhanced and restored.
- During construction of a new Transmission line we excavated peat from a raised bog and diverted it to other areas of the site using expertise of a renowned peat specialist from Sheffield University to design and oversee the process.
- We worked with the local fisheries board in Moffat to design a fish ladder to allow fish to pass through the culvert.

### How we engaged

St Andrew's Cross is a key city centre substation of historical significance which was saved from demolition when the new M74 motorway was built, resulting in the rerouting of the road. We worked closely with Glasgow City Council's heritage team to arrive at a design that could meet both health and safety and heritage objectives.

Through early engagement with stakeholders ahead of the building of a new Transmission line in Denny, we were aware ahead of time that some of our plans may impact on a site containing peat, which is considered to be of ecological importance. We worked in collaboration with Scottish Natural Heritage and SEPA to find a solution which would avoid a costly diversion of the new transmission line, but would preserve the importance of the site. The appointment of a renowned peat expert helped to identify a mutually acceptable solution.

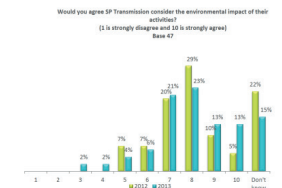
During work in Moffat, our relationship with the Fisheries board highlighted that it was possible that fish swimming upstream would be impacted by our work. A Community Councillor also highlighted a problem at a local beauty spot, which became inaccessible due to the water enveloping the pathways. The problems appeared to pre-date our activities, however after hearing of the impact that this problem was having on the community we offered to help.

### Feedback views and data

*"We have opened up 5 miles of good spawning habitat that has probably been unused for 20 years. A great deal of thanks to the guys at Road Bridge and Iberdrola [SP Energy Networks] for making this possible. Hopefully the first trouts will be arriving in few weeks time."*

Local stakeholder, via social media

*In our annual survey, 70% rated our environmental performance as 7/10 or above, but comments suggested we could go further "I think that they could engage with local stakeholders with environmental impacts better".*



*"Annual stakeholder survey - Would you agree SPEN consider environmental impacts"*

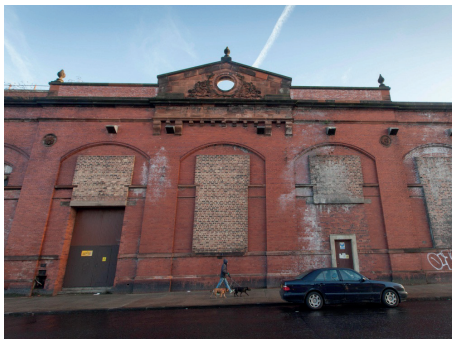
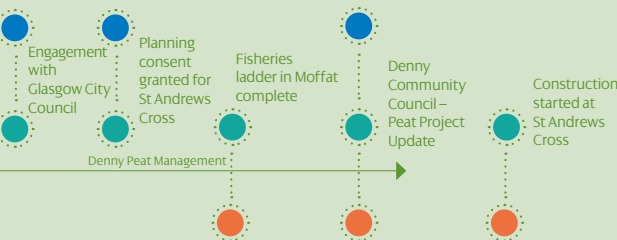
### Timeline

Q2 2013 Q3 2013 Q4 2013 Q1 2014

STAKEHOLDERS

SPEN

COMMUNITIES



### Monitoring

- Annual stakeholder survey.
- Key stakeholder liaison meetings.
- Social media monitoring of references to SPEN.
- Community engagement as part of project development.



# Creating a smarter electricity network

This case illustrates how we work with industry stakeholders in the development of a smarter electricity network – that is capable of accommodating the changing needs of network users efficiently and effectively. It illustrates how we respond to stakeholder feedback by exploring and developing smarter network solutions using the latest academic work and international experience.

## The challenge

In order to meet the needs of network users we need to innovate and develop new, smarter ways of working. The challenge is how best to engage to develop these smart solutions, that meet the service needs of current and future users. Some of it is about smarter ways of working and some is about new technology.

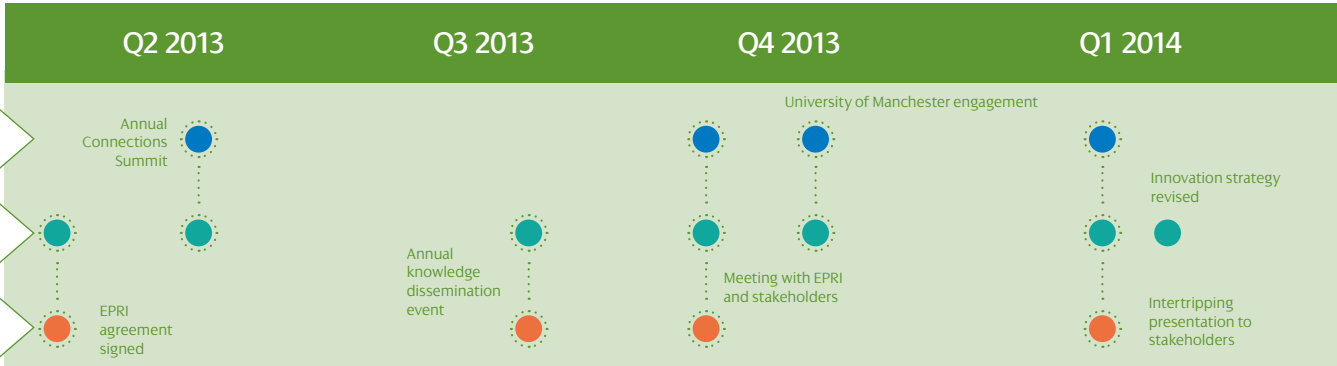
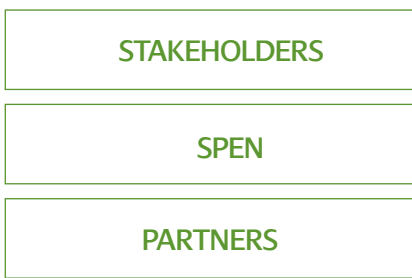
## The outcome

- Identification of priority areas for our Transmission innovation strategy, including increase of transmission boundary transfer capacity, acceleration of renewable connections and environmental impact reduction.
- Engagement of Electric Power Research Institute (EPRI) to inform and support our innovation in two specific, targeted areas for a twelve month period; Transmission network operations (with the support of latest wide area monitoring) and the subsea HVDC project connecting Scotland and England.
- After engaging widely, we have initiated a new project with National Grid to consider how to revise the current security of supply arrangements at the Scotland/England boundary. At the moment, the largest generation source would 'trip' in the event of a circuit being out of service. We are establishing the feasibility of 'smart intertripping', which helps to keep more generation capacity connected when circuits are out for maintenance; by selecting which generator to constrain and to what level.

## How we engaged

- We presented our Transmission innovation strategy at our annual Connections Summit in Glasgow and continued our consultation at the University of Manchester matching stakeholder needs with the latest academic developments.
- We entered an agreement in April 2013 to work for three years with EPRI, a non-profit research institute based in the United States. EPRI is a recognised international organisation specialised in power system engineering. A research team met SP Energy Networks engineers, researchers from Strathclyde University and Imperial College to exchange information on improvements in Network Operations.
- EPRI joined our Annual Knowledge dissemination event in September, where we shared findings from our innovation projects with key stakeholder groups.
- In February 2014 we presented to suppliers, consultants, Transmission operators across Europe and major Universities regarding our smarter approach to intertripping.

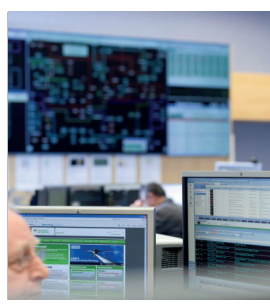
## Timeline



## Feedback views and data

**Audience response from knowledge dissemination event**

- 96% thought we achieved our aim of updating them on flexible networks.
- 87% thought the quality of presentations was either great or excellent.
- 83% thought we achieved our aim of demonstrating knowledge transfer.



## Monitoring channels

- Monthly Executive Update
- Audience response at Knowledge dissemination event
- Annual connections summit feedback forms

*We appreciate your active involvement and efforts as we collaboratively work together in advancing the research and developing innovative solutions for the industry.*

Daniel Brooks, EPRI





**SP ENERGY  
NETWORKS**