Supporting Document 02

Our customer and stakeholder engagement process

Our customer and stakeholder engagement process

Introduction

This document outlines our approach to designing, undertaking and reporting the outcome of our engagement with stakeholders for the purpose of the RIIO-T1 Price Control review (1 April 2013 to 31 March 2021).

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Our approach to stakeholder engagement

SHETL has a proven commitment to early and effective consultation with stakeholders. Key to this is recognising the issues that matter most to customers and recognising that customers want to be involved.

We started our engagement process for the purposes of RIIO-T1 in August last year with the establishment of an internal team who were able to draw on past engagement experiences and existing stakeholder relationships across the SSE group. As part of this work, we sought direction from industry best practice, particularly in relation to ensuring that we considered the appropriate techniques for the different groups of stakeholders involved. We also considered the stakeholder engagement processes of Ofgem, National Grid and Scottish Power Transmission in deciding how best to conduct our own engagement.

Identification of stakeholders

Central to this process was the identification of all relevant stakeholders and stakeholder groups. To this end, we established two categories of stakeholders: those that were considered *likely* to engage; and those that we thought *may* engage.

Stakeholders thought likely to engage:

- National Grid as system operator
- Transmission owners: National Grid (NGET), Scottish Power Transmission (SPT), offshore owners
- Distribution network operators: Scottish Hydro Electric Power Distribution (SHEPD), Scottish Power Distribution (SPD)
- Directly connected demand and generation customers (both existing and future)
- Generation representatives, including: Scottish Renewables; CES; Association of Electricity Producers (AEP)
- Renewables: Renewable Energies Transfer System (RETS), Forum for Renewable Energy Development in Scotland (FREDS); Offshore Wind Industry Group (OWIG); The Marine Energy Group (MEG); Scottish Grid Group
- Environmental agencies: Scottish Natural Heritage (SNH); Scottish Environment Protection Agency (SEPA); Historic Scotland (HS); Royal Society for the Protection of Birds (RSPB)
- Highlands and Islands Enterprise
- The Crown Estate
- Ofgem
- Westminster Government
- Scottish Government

Stakeholders that may engage:

- Consumer groups
- Suppliers

Our approach to stakeholder engagement

- Health and Safety Executive
- Grantors
- Environmental groups
- Other lobby groups, e.g. trade unions, supply chain partners
- Aviation

A complete list of all stakeholders is set out in pages 45-53 of this supporting document.

Importantly, in order to ensure that our stakeholders remain relevant, our list of stakeholders has remained flexible throughout our engagement process and will continue to do so. We have, for example, updated our stakeholder list to reflect the new Scottish Government administration formed during this consultation process. Where appropriate, we have also tried to recognise where previous appointments may still wish to be kept informed. In doing so, we aim to ensure that those who want to be involved are given every opportunity.

Engagement structure

As well as identifying relevant stakeholders, we also set out our structure for engagement. This focused on the four key areas of our business / service that customers routinely tell us matter most to them:

- The safety and reliability of their electricity supply;
- The effectiveness of our customer service;
- How we support the growth of the low carbon economy, including connection to our network; and
- What we are doing to minimise our environmental impact.

To aid consistency, all of our communications have reflected this structure.

In terms of our approach, we explored a wide range of options, including multi-lateral sessions to capture and share a broad spectrum of views. However, based on our experience from the recent Distribution Price Control Review (DPCR5), we decided to pursue a multi-stage, iterative process, involving a combination of press and web-based communications, direct mailings and one-to-one meetings. It was our view that one-to-one meetings provided our stakeholders with a more personable approach and one that was more likely to encourage their involvement and a real understanding of their issues. We also felt that by ensuring that our engagement was relevant to the respective stakeholder throughout, we would minimise the risk of ‘consultation fatigue’.

Our approach to stakeholder engagement

For each meeting, we have ensured that a member of our Transmission Price Control Review Team as well as that stakeholder's regular SSE contact have attended, again to ensure a more personable approach and to aid continuity.

The output of these meetings has been recorded using a consistent format and, at each stage, stakeholders have been asked to verify our account of discussions to ensure that our records accurately represent the meeting. We have also encouraged stakeholders to use the dedicated email address established at the start of our engagement process to simplify and coordinate stakeholder feedback. Moreover, by encouraging written feedback, we can be sure that we have properly reflected stakeholders' positions.

We have, as far as possible, reflected the views of stakeholders throughout our Business Plan. Where stakeholders have raised issues that we have been unable to accommodate, or issues that are not specific to our role as transmission owner, we have responded formally to the relevant stakeholder.

We have, however, also appointed a third party independent assurance provider, Environmental Resources Management ERM, who are a sustainability consulting and assurance firm, to review our approach to engaging with stakeholders. ERM's report can be found on pages 8-10 of this document.

Our approach to stakeholder engagement

Our approach to stakeholder engagement has been developed in line with Ofgem's 'criteria 8 – effective engagement and understanding of stakeholder views'. The following table sets this out in detail:

Criteria 8	Reference
Who are the relevant stakeholder groups with whom I should engage?	List of all stakeholders, p45-53
What are the best ways to facilitate effective engagement with these groups?	Engagement structure, p4-5
Is there any preparatory work that I should do with these parties to ensure that they understand the issues?	Pre-consultation letter, p12-15 Stakeholder communications presentation, p34-44
How do I best get stakeholder input?	Pre-consultation letter, p12-15 Green Paper consultation White Paper consultation
What are the available options to achieve these outcomes?	Engagement structure, p4-5
Can I take a look at the experience of others in terms of engagement with their stakeholders?	Our approach to stakeholder engagement, p3-6
Should I use different techniques for different groups of stakeholders?	Engagement structure, p4-5
How can I effectively collate the views of stakeholders to ensure a clear understanding of the key views expressed?	Engagement structure, p4-5
What is stakeholder feedback telling me about the level of a particular output that I should seek to deliver?	Addressed throughout our Business Plan
What areas do I need to focus on to improve on customer satisfaction?	Supporting documents: (i) 'Our customer and stakeholder engagement process'; and (ii) 'Future standards of customer service'
Where stakeholders disagree, how can I resolve diverse views they have expressed?	Green Paper consultation; White Paper consultation; and Supporting document 'Information to support our proposed growth capital expenditure programme'
What is my justification for the decisions that I have reached?	Engagement structure, p4-5; Summary of stakeholder responses, p22-33
Do I have a robust rationale for the comments that I have not accommodated?	Addressed directly with relevant stakeholders; subject to independent assurance by ERM

Our approach to stakeholder engagement

Our programme for engagement

Our programme for engagement was established in August 2010 and, by and large, we have adhered to this original programme.

August – September 2010

- Identification of stakeholders
- Development of dedicated web page and email account to facilitate stakeholder feedback
- Initial contact established with 180+ stakeholders by way of 'pre consultation' letter (see pages 12-15)
- Environmental Resources Management (ERM) appointed to provide independent assurance of our process

October – December 2010

- Offer of one-to-one meetings made to 80 individuals and organisations, 29 of which accepted
- Feedback recorded and used to inform our Green Paper consultation

January - February 2011

- Green Paper consultation published; 19 written responses received
- Ongoing one-to-one engagement with stakeholders and follow-up sessions
- Feedback sought from ERM, as part of their assurance work, on our process to date

March – June 2011

- White Paper consultation published; 6 written responses received
- Ongoing engagement with stakeholders and follow-up sessions

July 2011

- Proposed Business Plan finalised and submitted to Ofgem
- Final ERM assurance sought

ERM’s independent assurance report

Independent assurance report to Scottish Hydro Electric Transmission Limited

Scottish Hydro Electric Transmission Limited ("SHETL") appointed ERM to provide independent 3rd party assurance on stakeholder engagement activities as presented in its July 2011 Business Plan to Ofgem for the RIIO-T1 Price Control Review ("the Business Plan").

Our brief

We were asked to provide independent assurance on whether SHETL's approach to designing, undertaking and reporting the outcome of its engagement with its stakeholders for the purpose of the RIIO-T1 Price Control review as presented with the Business Plan is aligned to Ofgem's expectations contained within the Open Letter dated 30 July 2010 and the subsequent Ofgem notice to Transmission Operators on 31 March 2011 which included the criteria for stakeholder engagement ("Criteria 8").

Our approach

Standards and criteria used

We delivered our work in accordance with ERM's assurance methodology which is based on the following international assurance and audit standards: ISAE 3000 and ISO 19011.

We planned and performed our work to obtain all of the information and explanations that we believe were necessary to provide a basis for our assurance conclusions as to whether the reported information set out in 'Our Brief' was appropriately reported, i.e. that nothing has come to our attention through the course of our work that the data are materially mis-reported (limited assurance).

We used Ofgem's "Criteria No. 8" (from the Ofgem "Decision on Strategy" letter dated 31 March 2011) as our criteria for this assignment.

If we had been asked to conclude on whether the selected disclosures are materially accurate, we would have needed to conduct more work at corporate and site levels and to gather further evidence to support our assurance opinion.

The reliability of the reported information and data is subject to inherent uncertainties, given the subjective nature of assessing and reporting on stakeholder engagement exercises. It is important to understand our assurance conclusions in this context.

Our work

A multi-disciplinary team of stakeholder engagement and assurance specialists performed work at corporate level with the RIIO-T1 Project Team in relation to the above subject matters. Our assurance activities included:

- Initial face-to-face interviews at SHETL's Corporate Headquarters in October 2010 to understand how SHETL had designed its stakeholder engagement programme and how the initial phases of work were being undertaken.

Independent assurance report to Scottish Hydro Electric Transmission Limited

These interviews were followed-up with a review of relevant documentation;

- Reviews of Pre-Consultation notification documentation submitted by SHETL to stakeholders and reviews of the responses received by SHETL in this respect;
- Conducting similar review processes for each of the Green and White Papers submitted by SHETL. In particular, ERM reviewed documentation to assess how comments made had been taken into consideration by the SHETL Project Team and where appropriate, to issue a response to stakeholders;
- Reporting our assurance findings to the SHETL Project Team as they arose to provide them with the opportunity to correct them prior to finalisation of our work; and
- Review of the presentation of information relevant to the scope of our work in the final Business Plan to ensure consistency with our findings.

Respective responsibilities and ERM's independence

SHETL is responsible for preparing the Business Plan and for the information in it. ERM's responsibility is to express our assurance conclusions on the agreed brief.

During 2010, ERM has worked with SHETL / SSE on other consulting engagements, not related to the production of the Business Plan nor the scope of this assurance engagement. ERM operates strict conflict checks and we have confirmed our independence to SHETL for delivering our assurance.

Our assurance conclusions

Based on our work undertaken as described above, we conclude that in all material respects, SHETL's approach to designing, undertaking and reporting the outcome of its engagement with its stakeholders for the purpose of the RIIO-T1 Price Control review as presented with the Business Plan is aligned to Ofgem's expectations contained within the Open Letter dated 30 July 2010 and the subsequent Ofgem notice to Transmission Operators on 31 March 2011 which included the criteria for stakeholder engagement.

Environmental Resources Management Limited (ERM), Edinburgh, UK, 28 July 2011.

ERM is an independent global provider of environmental, social and sustainability consulting and assurance services. Over the past 4 years we have worked with over half of the world's 500 largest companies, in addition to numerous governments, international organisations and NGOs.

Our correspondence with stakeholders

Our correspondence with stakeholders

Inveralmond House
200 Dunkeld Road
Perth
PH1 3AQ

3rd September 2010

THE FUTURE OF ELECTRICITY TRANSMISSION IN THE NORTH OF SCOTLAND

I am writing on behalf of Scottish Hydro Electric Transmission Ltd (SHETL) to seek your views on the future of electricity transmission in the north of Scotland.

Electricity transmission

SHETL owns and maintains the 5,000km high voltage electricity network of underground cables and overhead lines that serves the northern part of Scotland and connects to central and southern Scotland and the rest of Great Britain. Electricity networks like this provide a physical link between electricity generators and electricity users, and SHETL's duties and obligations include ensuring that it is able to provide an economic and efficient service to generators who wish to connect electricity onto its network.

Because electricity transmission businesses like SHETL are natural regional monopolies, they are regulated by Ofgem through a 'price control'. Amongst other things, this determines the amount of revenue they are able to earn from network users and the framework for the capital investment they are able to make in developing; maintaining and upgrading the networks.

Transmission price control from 1 April 2013

Over the past two years, Ofgem has been reviewing the way electricity and gas networks in Great Britain are regulated - the RPI-X@20 review. Ofgem published its recommendations in July of this year. If accepted, these

Our correspondence with stakeholders

recommendations will form the basis for determining the transmission price control which is due to begin on 1 April 2013. More information about the RPI-X@20 review can be found on Ofgem's website: http://www.ofgem.gov.uk/Networks/rpix20/Pages/RPIX20.aspx

One of the key RPI-X@20 recommendations is that an outputs-led approach to network regulation should be adopted. This means that regulated companies such as SHETL will need to define the service levels or outputs they expect to deliver to their customers. The prices that they will be allowed to charge for the use of their networks will be based on delivering those service levels or outputs. The companies might face penalties for not meeting the defined standards or secure rewards for exceeding them.

Work on the next full electricity transmission price control is now under way, as set out in an open letter consultation published by Ofgem on 30 July, and Ofgem intends to publish a consultation document on its initial strategy for the price control in December of this year.
Because this price control is due to run from 2013, it will not have any impact on the construction of the replacement transmission line between Beauly and Denny, for which Scottish Ministers announced consent in January 2010, and which is outside the scope of this request for views.

Potential primary outputs from the new transmission price control: your views
Ofgem has set out a proposed approach for determining what transmission networks need to deliver and has also proposed categories of outputs. These indicative primary outputs are: environmental impact; reliability and availability; conditions for connections; customer satisfaction; and safe network services. SHETL is seeking your views on each of these areas.

§ Environmental impact. One of SHETL's obligations under the Electricity Act 1989 is to have regard to the environmental impact of its activities and of users on the network by: contributing to environmental targets; taking into consideration and, where appropriate, seeking to minimise the visual impacts of infrastructure; minimising business carbon footprint; and minimising other emissions. What do you think are the environmental issues which SHETL should address from 2013?

Our correspondence with stakeholders

- Network reliability and availability. SHETL's first responsibility is to help keep the lights on. Its electricity transmission system is designed to meet national standards for the security and quality of supply and during 2009-10, it achieved an overall reliability of supply of 99.99973%. SHETL's performance is reported each year in the national electricity transmission system performance report, which can be found at http://www.nationalgrid.com/uk/Electricity/Info/performance. What do you think are the standards and targets that should be set to ensure SHETL's network is reliable and available for existing and future customers?

- Conditions for network connections. Over the past decade, SHETL has experienced a significant increase in the number of new generation developments - particularly renewable technologies - seeking connection to its network. Its objective is to provide such new connections in a timely, transparent and high quality way. In line with this, it supports the 'Connect and Manage' regime recently introduced by the UK government. What do you think are the steps SHETL should take to ensure users and generators of energy are connected in a timely, transparent and high quality way?

- Customer satisfaction. SHETL has three main groups of customers: generators that are directly connected to its system; demand users that are directly connected to its system; and customers that are served via its connection to the low voltage electricity distribution network. It also provides a service to National Grid, the national electricity System Operator. What do you think SHETL should do to define customer satisfaction metrics and to measure the satisfaction of its customers?

- Safe network services. SHETL and other electricity network companies are expected to operate a safe network by meeting safety requirements determined and enforced by the Health and Safety Executive. Beyond this, the safety of the people who work with SHETL and everyone else is at the heart of everything that SHETL does and safety is the first of its core values. What do you think SHETL should do to ensure safe network operation, beyond compliance with legal safety requirements?

In addition to your views on each of these areas, SHETL would like to know if you think there are other outputs which should feature in the development of the new transmission price control.

Our correspondence with stakeholders

How to share your views with SHETL

SHETL is very keen to know what you think about the issues around each of these five potential primary outputs and whether other categories of outputs should be considered. You can write to me at the above address or send your views via transmission.review@sse.com.

Further information will also be made available at www.SSEPD.co.uk.

These views will then be used to develop a more detailed consultation document, which SHETL will publish in the autumn of this year, in advance of the publication of Ofgem's initial strategy in December. In order to ensure your views can be considered in full before SHETL's consultation document, and also shared with Ofgem in advance of its strategy being published, please submit your comments by Friday 1st October 2010. Please state if you wish your comments to be treated as confidential.

I look forward to hearing from you.

Yours sincerely,

Iain Anderson

Transmission Price Control Manager

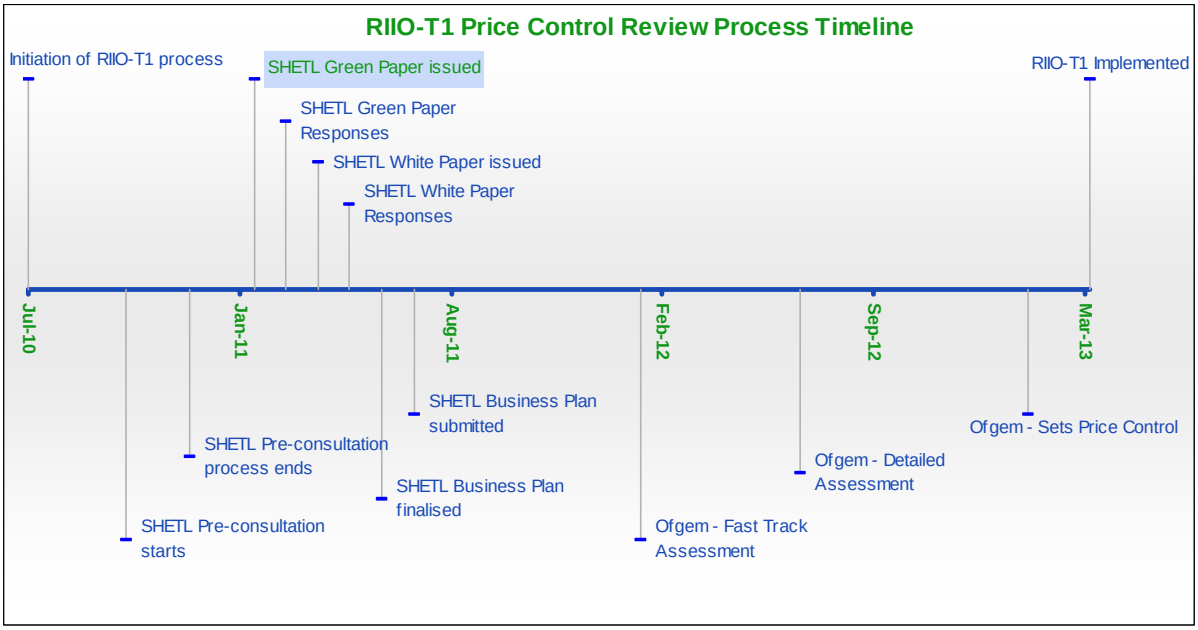
Our correspondence with stakeholders

Inveralmond House
200 Dunkeld Road
Perth
PH1 3AQ

21st February 2011

FUTURE OF ELECTRICITY TRANSMISSION IN THE NORTH OF SCOTLAND – CONSULTATION GREEN PAPER

I enclose a copy of our Transmission Price Control Green Paper. This is the second major stage of our consultation process associated with the 8-year transmission price control period which is due to start on 1 April 2013. The full timetable for this consultation process is shown below.



Our correspondence with stakeholders

The Green Paper is divided into a number of sections which relate to the areas identified as either primary output considerations from Ofgem, or areas associated with SHETL's development plans to support the renewable energy requirements to 2021 and beyond.

Where possible, we have included our responses to feedback we have already received from our stakeholders, although in some cases these may not appear to specifically address issues you have raised with us where we are also covering similar views of others stakeholders.
The Green Paper poses a number of questions related to our current views on the future of electricity transmission in the north of Scotland. To help us further develop our views, we invite you to respond to these questions.

Further information on SHETLs work on the price control process and documentation issued to date, is available at http://www.ssepd.co.uk/Projects/TransmissionPriceControlReview/.

The latest information on this consultation published by Ofgem, the main overview document and the associated supporting documents and responses to date can be found at:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=28&refer=Networks/Trans/PriceControls/RIIO-T1/ConRes

If you require any further information about the RPI-X@20 review, again this can be found on Ofgem's website: http://www.ofgem.gov.uk/Networks/rpix20/Pages/RPIX20.aspx

If it will be helpful, we will be happy to meet and discuss our plans with you.

How to share your views with us

We are very keen to know what you think about our proposals and the issues covered in the Green Paper. If you would like to arrange a meeting or submit comments, please contact me at the above address or email me at: transmission.review@sse.com.

Our correspondence with stakeholders

Please tell me if you wish your comments to be treated as confidential as we would like to share your views with Ofgem as appropriate and possibly include them as quotes in our future documentation.

Your feedback will then be used to help us develop our next more detailed consultation document, which we will publish in the spring of this year. To ensure we can consider your views in full before this next consultation document is finalised, please submit your comments by Monday 21 March 2011.

Yours sincerely,

Landel Johnston
Transmission Price Control

Our correspondence with stakeholders

Inveralmond House
200 Dunkeld Road
Perth
PH1 3AQ

03 June 2011

FUTURE OF ELECTRICITY TRANSMISSION IN THE NORTH OF SCOTLAND – CONSULTATION WHITE PAPER

I enclose a copy of our Transmission Price Control White Paper. This is the third and final stage of our consultation process associated with Ofgem's 8-year transmission price control period which is due to start on 1 April 2013. To set this in context, perhaps it will be helpful if I summarise the process to date:

Ofgem consultation

Ofgem published the results of their initial consultation on the strategy for this price control in December 2010. This can be seen at:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=28&refer=Networks/Trans/PriceControls/RIIO-T1/ConRes

They followed this up with their Decision on Strategy document at the end of March 2011, see:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=77&refer=Networks/Trans/PriceControls/RIIO-T1/ConRes

SSEPD Consultation

In September 2010, we wrote to stakeholders seeking their views on a number of potential primary outputs for the new price control, our 'Pre Consultation'

Our correspondence with stakeholders

In February 2011, we published a consultation on our plans for the next decade; our 'Green Paper' consultation.

We have now reviewed Ofgem's Decision on Strategy document and the feedback we have received from our stakeholders following the publication of our Green Paper consultation. Based on this review we have further developed our own strategy and have now published our White Paper which will form the basis of our Business Plan which we must submit to Ofgem in July 2011. We expect to be able to issue a copy of our Business Plan to you in August 2011.

White Paper consultation

Although we are open to general feedback and responses on this document, there are a few additional questions posed within our White Paper which we would welcome any further detailed responses. We believe we have taken account of your views in developing our White Paper, however these further responses will be considered and where appropriate incorporated into our Business Plan.

How to share your views with us

Although you may not have been involved in our earlier consultation stages, we are very keen to know what you think about our proposals and the issues covered in the White Paper.

Further information on SHETLs work on the price control process and documentation issued to date, is available at: http://www.ssepd.co.uk/Projects/TransmissionPriceControlReview/.

If you require any further information about the RPI-X@20 review, again this can be found on Ofgem's website at: http://www.ofgem.gov.uk/Networks/rpix20/Pages/RPIX20.aspx.

If you would like to arrange a meeting or submit comments, please contact me at the above address or email me at: transmission.review@sse.com.

Please tell me if you wish your comments to be treated as confidential as we would like to share your views with Ofgem as appropriate and possibly include them as quotes in our future documentation.

Our correspondence with stakeholders

To ensure we can consider your views in full before submission of our Business Plan, please submit your final comments by Monday 20 June 2011.

Yours sincerely,

Landel Johnston
Transmission Price Control

Summary of stakeholder responses

Summary of stakeholder responses

Pre-consultation letter

1. Consider a mechanism which allows SHETL to strategically invest in their transmission network (ahead of a demonstrated needs case), possibly via an incentive mechanism. This may then allow some of the proposed network reinforcements (e.g. Western Isles HVDC Link) to be progressed in a similar manner to the Beauly – Denny reinforcement.
2. The materiality of the impact on the transmission system from small distributed generation should be reviewed and mechanisms, possibly as part of the innovation initiatives, should be considered to allow such generators to connect subject to the completion of local distribution works only.
3. SQSS standards to be reviewed to ensure they remain reflective of current industry best practice and recognise technological development (e.g. "Connect and Manage", GAP conductor, real time thermal ratings etc).
4. It should be possible for SHETL to work with supply companies to develop an inexpensive off peak pricing product for fuel poor customers. This would help provide low cost electricity to fuel poor and also have a positive effect on demand on the Transmission system by reducing peak demand. This could also be linked to the buddying of generators and load (e.g. electric storage heating).
5. Ofgem should incentivise the TO's to develop and maintain the necessary skill sets in the workforce necessary to meet both the sustained period of network growth and counter the current trend in age profile for the industry. These are considered to be important, standalone and measurable outputs.
6. Safety – promotion in common/single standards and reporting with reference to in house and contracted resource.
7. Stakeholders did not support Ofgem revisiting the pension proposals but rather maintain a consistent position to the outcome in DPCR5.
8. The expected drive for increased use of low carbon energy via the electricity network needs to be supported by a reliable network. It is essential that the network allows sustainable low carbon energy to be developed and minimises network constraints.
9. In addition to incorporating mitigation of environmental impact of new build, there should be an allowance for retrospective mitigation of environmental impact (existing transmission infrastructure) – e.g. with respect to potential to incorporate forest 'concept design' through existing wayleaves / following harvest.

Summary of stakeholder responses

10. Safety - with potential for increased undergrounding in the future, stakeholder issues with respect to visibility (avoidance) of underground cables vs visibility of O/H line, especially over open, remote terrain.
11. Conditions for Connection / Customer Satisfaction – additional – enhanced TO services in area of grid connections / application, e.g. provision of network capacity information.
12. Co-ordination of transmission network outages with other land users through strategic outage planning forum. [FES and SHETL to identify organisation lead contact to develop further].
13. Scottish Natural Heritage (SNH) would prioritise the natural heritage impacts of new or upgraded transmission lines as: 1) Visual and Landscape, 2) Biodiversity – habitat fragmentation.
14. SNH considers the objectives set out in Scottish planning policy (para 125-148), in relation to natural heritage, (and their marine equivalent) should form the basis for the environmental outputs expected from transmission networks.
15. It was suggested SHETL (TOs) may be measured on the extent to which any development of their network would facilitate reduction in the overall carbon footprint of electricity generation – measurement should not be limited to the carbon footprint of the TO.
16. Recognition of regional economic benefit associated with the development of renewable generation, and the inclusion of this benefit in the needs case for the development and funding of expensive transmission links and infrastructure.
17. Support for the principle of pre-construction (design and consenting) funding for potential transmission infrastructure developments, in order to optimise construction readiness with confirmed need, and avoid undue delay.
18. Consider and promote broader options for the incorporation and acceptability of new transmission infrastructure, e.g.

    a) Large substation (Convertor stations) – as Dewar Place substation lighting, Edinburgh.

    b) Possibility of linking Luichart Windfarm connection into the proposed W. Isles HVDC Link.

    c) Use of heat loss from convertor stations.
19. Flood Defence – request to include proposals for the defence of key substations in the business plan.

Summary of stakeholder responses

Green Paper consultation

1. Business as usual – keeping the lights on

1. Stakeholders agree with the view that SHETL plays an important role in terms of its industry engagement activity. Facilitating discussion, clarifying the grid connection process, highlighting opportunities for the project developer community to share risk and encourage collaborative behaviour to facilitate the progression of grid connection applications.
2. Business as usual proposals as detailed in the consultation document seem entirely reasonable.
3. Support for the general requirement to develop cohesive plans for the nation's power infrastructure.
4. Reduction of system redundancy – through innovation and design standard.
5. The delivery of an electricity transmission network which enables new generation to connect in line with its project timelines whilst helping to maintain security of supply in a cost effective manner is crucial to the delivery of Government 2020 targets and beyond. We therefore welcome the stakeholder engagement that SHETL is undertaking for its planned approach.
6. Sufficient grid infrastructure must be deployed at scale in order to maximise the opportunity presented to the area. An essential part of that infrastructure will be the embedded storage which must begin to be incorporated into the network.
7. Make anticipatory investment in networks so that generation connections can be delivered when generation is ready;
8. Smart grid and active network management scheme to facilitate connection;
9. Provide faster connection offers and more certain timescales and costs;
10. Provide more information on connection costs and opportunities for DG.
11. Encourage Demand Side Management to reduce network reinforcements and to use available DG locally and reduce constrained DG;
12. Change voltage control schemes to allow more generation onto 11kV networks without voltage rise issues;
13. Deploy dynamic line ratings to allow more wind on the system when lines are wind cooled;
14. Develop on-line phaser measurements and stability analyses to operate networks more efficiently and securely;
15. Encourage new demand connections to reduce their supply capacity by passing on lower costs / faster connections when DSM and DG measures are incorporated in new customer developments;

Summary of stakeholder responses

16. Identify “worst customers” in terms of carbon footprints and provide guidance, support and encouragement – including with third party providers – to reduce energy usage;
17. Find ways of providing more electric vehicle charging points without network reinforcements;
18. Identify means of connecting heat pumps whilst minimising network reinforcements;
19. Optimise the SQSS to speed connections, reduce constraints, minimise investments whilst maintaining security of supply;
20. Reducing grid barriers to entry by providing fast and free connection budgets;
21. Monitor and develop connect and manage;
22. Develop overhead line designs that will are more planning friendly;
23. Consider innovative line routes, voltages and designs e.g. to use motorway or rail corridors;
24. Develop ancillary services for low load factor conventional plant (e.g. reactive power, inertia, fault/short circuit in-feed) to enable these generators to continue in the market and avoid closure;
25. Improve SO-TO co-ordination for outage planning;
26. Developing Demand Side Participation so that a load can offer services to the DNO, TSO and SO at different times;
27. Monitor and influence European 3rd Package codes and requirements to ensure they support renewables and low carbon generation;
28. Reduce barriers to connection by updating codes and regulations to properly account for new technologies;
29. Encourage new ancillary services that can be provided by new technologies (e.g. rapid controllable high frequency response from wind farms);
30. Be proactive in adapting the Grid Code to allow the connection of new technology – such as larger long shafted wind turbines which have different performance capabilities to current large wind turbines some of which are better that current code requirements and some of which are worse;
31. Co-operate and identify best national and international practice which allows wind turbines to be operated close to overhead lines without risking system security;
32. Re-examine every consultation and code change draft and ask – ‘will this help or hinder renewables and decarbonisation?’
33. Work in conjunction with the Green Deal to identify users and areas most in need of investment to save energy;
34. Consider how they can work with gas networks, district heating networks and their own asset

Summary of stakeholder responses

replacements and developments to deliver lowest cost low carbon heat and electricity to users;

35. Develop ideas with other industry players to unlock energy efficiency to deliver surplus capacity (as per consideration explore within the recent consultation on Electricity Market Reform);
36. Deploying innovation – deploying the unknown.
37. The low figures for unplanned outage suggest that the current approach to flood protection is adequate. Consideration should be given to future proofing flood protection measures.
38. Funding for innovation is a worthwhile inclusion. It is through research that, for example, alternatives to the use of SF6 as an insulator may be found allowing possible phasing out of this potent greenhouse gas.
39. A stakeholder considers that SHETL's business activities seem focused, effective and appropriate. Although the level of outages, as a result of extreme weather events, calls into question the resilience of existing infrastructure in some of the more remote areas. And urges SHETL to remain alive to the needs of customers at the end of fragile radial links.
40. Customer service seems to be generally acceptable although more could perhaps be done in terms of proactive infrastructure investment to increase network resilience in times of extreme weather.
41. SHETL's expenditure forecasts in terms of routine network maintenance and asset replacement seems reasonable.

2. Investing for a greener future

1. SHETL's proactive approach to facilitating transmission development in a challenging and heavily regulated environment is welcomed given the level of uncertainty in the electricity market due to the breadth and depth of fundamental review of transmission charging, underwriting and market arrangements. Taking each proposal on a case-by-case basis, identifying uncertainties, adopting a robust engineering approach underpinned by evidence is the best way forward, and at this point in time seems to be a common sense approach and one that offers the most robust opportunity for project development and management.
2. Early investment in the transmission system, as identified by Energy Network Strategy Group, is essential for the UK to make the transition to a low carbon economy and to achieve 2020 objectives. If not addressed early, onshore transmission issues could be a bottle neck for offshore renewable connections due to the significant planning and consenting timescales for such onshore work. (Grid connections for Beatrice and Moray Firth will happen from around

Summary of stakeholder responses

2014/15. The majority of Scottish Territorial Waters projects will come later starting around 2016. Onshore wind will continue to connect to the grid throughout the period).

3. Price volatility of fossil fuels will increase over the next decade. Securing the UK's energy needs via renewable energy, increased interconnection to Europe and smarter energy usage will help to protect against this volatility. The investments set out in SSE's green paper will help the UK achieve these measures. The suggested annual increase in customer bills appears reasonable against the potential volatility of the alternative.
4. The expected drive for increased use of low carbon energy via the electricity network needs to be supported by a reliable network. It is essential that the network enables sustainable low carbon energy to be connected and minimises network constraints.
5. Some stakeholders question the assumption made in the draft plan that only 30% of the target of 1.6GW of marine energy will be met by 2020; in part because no reasons are given in the draft plan for this assumption. The stakeholders recognise that there are technological barriers to be overcome before large scale deployment of marine energy can take place; but equally once these barriers are overcome, they consider deployment could be relatively rapid. Stakeholders also suggest part of the uncertainty surrounding the development of marine energy is uncertainty about delivery of generated electricity to markets – scepticism about marine energy which resulted in delay to grid strengthening could therefore in turn generate scepticism amongst investors about their ability to connect new projects to the grid.
6. Commenting on the stated likelihood that 30% of the capacity anticipated by The Crown Estate will be installed by 2020, in a stakeholder's experience it has taken longer to install devices than was originally planned.
7. Confidence expressed that the combination of Ofgem's fundamental review of transmission charging and underwriting, DECC's review of Ofgem's role and Electricity Market Reform will result in a positive outcome for renewable energy generation in the Highlands and Islands, stimulating greater investment and incentivising generation in areas of high resource. SHETL appears to be advocating 'no change' to its existing approach which, while suitable under the current market and regulatory arrangements, could be required to change significantly depending on the outcome of the reviews noted above.
8. Stakeholders welcome the proposals for the improvements in Transmission Infrastructure in

Summary of stakeholder responses

the North of Scotland as this is seen as an essential step in the enabling economic development based on the new renewable generation capacity anticipated in the area in the next 10 years and beyond. The availability of grid connections in the area will be key in first securing finance and later in the build out of new onshore and offshore wind and wave and tidal generation in the area.

9. There needs to be recognition of the importance of the Highlands and Islands and in Scotland in general in helping to meet the renewable targets set at both a national and regional level. Key to the development of renewable is the need to upgrade the transmission grid and secure future investment to be able to harness the renewables potential.
10. All possible incentives should be introduced to favour marine energy and any barrier to the development of this potentially valuable industry should be challenged. This to include grid priority access over all other forms of generation (particularly carbon based) for the early stages of its development.
11. A stakeholder noted that natural heritage issues on projects at earlier stages of planning/development, may not be well enough understood to allow detailed costs of possible mitigation requirements to be incorporated in SHETL's business plan for 2013 to 2021.
12. Consideration should be given to future proofing flood protection measures. Connect generation more quickly;
13. Share reinforcements between new generators;
14. Encourage local use of renewable sources which would otherwise be constrained;
15. Minimise network investment requirements for renewables delivery;
16. A stakeholder is concerned at SHETL's proposed date of deployment for the Western Isles Radial Connector (2015), and is of the view that this link can be in place by 2014 to align with onshore wind generation going live that year. SHETL is urged to strive for a 2014 timescale.
17. SHETL should be working with regulators to devise a more satisfactory method of underwriting key strategic elements of infrastructure. The Transmission Investment Incentive mechanism may have suited an earlier time when network investments were modest and incremental but a new approach is required today as SHETL face a £3-4bn schedule of infrastructure investment to keep pace with the renewable energy industry.

Summary of stakeholder responses

3. How we recover our costs

1. Stakeholders suggest that much of the transmission system in the North should be seen as part of the UK's strategic transmission network for the delivery of renewables, and as such it should not be reliant on underwriting by an amalgam of all those developing projects. Also that for major parts of the system, such as the Moray hub (and associated HVDC cables from Caithness and to Moray), this process will be excessively complicated and prone to delay, with a substantial number of developers, each with different timescales, required to take a share in underwriting. The areas served by this infrastructure are all highly productive areas for renewables, and investment in the basic infrastructure should be seen as the means to unlock that potential, rather than something that can only take place when project investors are all signed up. Other types of infrastructure, such as transport, are provided not just when demand has manifested itself, but in the sure knowledge that investment in basic infrastructure with unlock latent demand. Stakeholders have some concern that realisation of the 'Supporting Growth' part of the SHETL business plan 2013-21 – which nevertheless is supported - will depend in part on resolution of some of the difficulties outlined above, recognising that this will require the involvement of Ofgem and probably also the UK Government.
2. For the time being, the current cost recovery regime seems reasonable but the step change in investment required to access the considerable renewable energy resource in the Highlands and Islands of Scotland may require a revised regime.

4. How our future transmission plans might impact on customer bills

1. Stakeholders recognises that strengthening the transmission system will be expensive, although are also aware that these costs form a very small part of customers' bills; and that such costs are an inevitable part of delivering on renewable targets, decarbonising the electricity supply, and ensuring security of supply in an uncertain world.
2. Customers have to be aware of the imperative to reduce carbon emissions while maintaining security of supply. £4 per year, or less than a 1% increase, on an average customer's bill is a reasonable amount to support the generational change from a fossil fuels based *distribution* system to a renewables based *collection* system.
3. Price volatility of fossil fuels will increase over the next decade. Securing the UK's energy needs via renewable energy, increased interconnection to Europe and smarter energy usage will help to

Summary of stakeholder responses

protect against this volatility. The investments set out in SSE's green paper will help the UK achieve these measures. The suggested annual increase in customer bills appears reasonable against the potential volatility of the alternative.

White Paper consultation

1. Confirmation of no further views on the content of the White Paper and reaffirming continued support in the delivery of future projects to meet SHETL overall Business Plan strategy.
2. Support for the need for safe infrastructure to serve customers and for reliable connections and the three key objectives of SHETL over the next decade, that is:
   - To keep the lights on for customers in the north of Scotland
   - To invest for a greener future
   - To minimise the impact on the environment as far as possible
3. Support for proposals for improving customer service.
4. Support for the business case put forward by SHETL for large capital projects subject to providing appropriate safeguards and environmental mitigation. It is expected mitigation of any adverse impacts on the environment and amenity would be provided by SHETL, avoiding national and regionally designated environmentally sensitive locations.
5. In general there is some concern that the White Paper is a blander, less detailed version of the Green Paper, and therefore leaves more matters to be dealt with as they arise during the business

Summary of stakeholder responses

plan period, rather than setting out relatively detailed plans at the outset of the period.

6. Reiteration of the case for basing a credible needs case on a mixture of committed generation and future potential schemes; likewise a case for sizing not just on the basis of committed generation, but leaving some headroom for future development.
7. There would be much merit in having a non-exclusive list of 'key agency' stakeholders identified in the in the White Paper. To ensure transparency and avoid the risk of certain interest groups over-dominating the issues.
8. There appears no mention of site selection as a mechanism for minimising environmental impact. [in the White Paper] Site selection should be based on a robust and transparent assessment of the merits, constraints and impacts of a range of options. This is a process which is currently being undertaken very effectively by SHETL.
9. If SHETL is willing to devote resources to improvements over-and-above requirements placed on it through the planning process, why should it not volunteer theses the planning process.
10. The cost to individual customers of the entire programme of transmission investment outlined in the plan seem eminently supportable, especially given that electricity prices are rising so fast as a result of the increase in cost of (mainly imported) hydrocarbons.
11. We broadly support the key objectives for the next decade as set out in the white paper, particularly the delivery of a green energy supply for Scotland in line with ambitions to minimise the environmental impact of SHETL's activities.
12. It is important the grid is planned strategically to ensure the successful deployment of renewables both on- and off-shore. However, this must not be to the detriment of Scotland's sensitive natural environment and strategic plans should guide development away from sensitive sites for wildlife wherever possible.
13. As a landowner, we have some experience of dealing with SHETL in relation to assets sited or planned on our land. We had some recent concerns regarding grid infrastructure works planned to cross our … *[three sites listed]* …. but engagement with SHETL has been productive and we are optimistic that that any issues can be resolved successfully.
14. We commend you on the robustness of your consultation process, however our position remains unchanged since previous submissions and acknowledged the consideration given to previous comments.
15. Our letter to Iain Anderson of 29 September 2010 sets out our support for renewable energy

expansion and we recognise the associated requirement to expand transmission system. We are committed to working constructively with SHETL to ensure this is done in a way which minimises adverse impacts on the natural heritage – and we welcome that the White Paper recognises such impacts are important.

16. As route selection can have significant bearing on the eventual impact of transmission lines on the natural heritage it is important that environmental interests are considered through the process of planning and installing transmission lines. Further, suitable mitigation of impacts should be included at each stage. Of course, we will provide more detailed comments when details of proposed routes are released.
17. Page 26: Figure 5.2. Can you please provide a breakdown of the row of offshore wind. Also can you please explain the basis of 310MW tidal and 260MW wave by 2020.
18. Page 28: Figure 5.5. Can you please give an indication for each project whether it is/will be regarded as a national strategic project and thus not subject to any specific user commitment.
19. Page 29: 4th paragraph ('Orkney For marine generation in the Orkney Waters, together with further onshore wind, an AC subsea link between the Orkney Islands and the Scottish mainland. This could be followed by a link of greater capacity, perhaps using HVDC technology'). This seems consistent with the message SHETL gave in Nov 2010 (see attached slides below). A direct query would be: what is the basis for the two staged approach? Will it be the optimal solution for the overall system if the final stage is indeed materialised by 2018 • 2020. In that case, will it not be more beneficial to go to the final stage without the more or less duplicating initial stage? If the two staged approach is to avoid risks of stranded asset, what consideration has been given to potential overspending if both stages are eventually built? - timing may be a further factor. How has the balance (between risks of stranded asset, overall cost and timing) been managed?

Stakeholder communications presentation

Stakeholder communications presentation

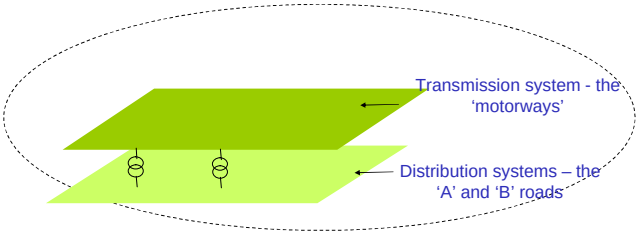
SSE

Scottish Hydro Electric Transmission Limited (SHETL)

Who are we … ?

SSE

Transmission and Distribution



The grid functions as a single 'meshed' network

§

SSE

Scottish Hydro Electric Transmission Limited (SHETL)

SHETL owns and maintains the 5,000km high voltage electricity network of underground cables and overhead lines that serves the northern part of Scotland and connects to central and southern Scotland and the rest of Great Britain.

Electricity networks like this provide a physical link between electricity generators and electricity users.

SHETL's duties and obligations include ensuring that it is able to provide an economic and efficient service to generators who wish to connect electricity onto its network.

Because electricity transmission businesses like SHETL are natural regional monopolies, they are regulated by Ofgem through a 'price control' this determines the amount of revenue SHETL can earn and the capital investment that can be made in developing; maintaining and upgrading the transmission network.

SSE

GB Transmission Wires ownership – ref SHETL

Three transmission owners (TOs) in Great Britain
- Scottish Hydro Electric Transmission Ltd (SHETL)
- Scottish Power Transmission (SPT)
- National Grid Electricity Transmission (NGET)

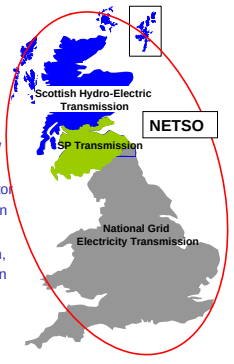
Each TO owns, plans and invests in existing and new transmission

One National Electricity Transmission System Operator (the NETSO*) controls access to the GB transmission system

The NETSO also sets the tariffs for use of the system, collects payments from users into a common pot, then redistributes proceeds to network owners.

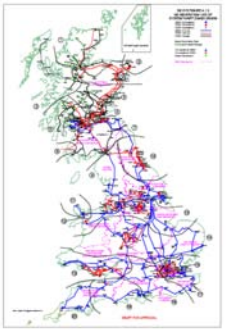
(Total transmission costs represent ~3% of domestic bill)

*NGET is both the TO for England and Wales, and the NETSO.



Stakeholder communications presentation

Transmission charges set by the NETSO – not SHETL



Ofgem launched project "TransmiT" on 22nd September 2010 to review charging arrangements. Respond to Ofgem's call for evidence at www.ofgem.gov.uk

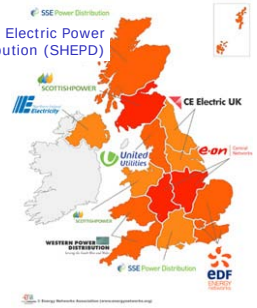
Charges are set by the NETSO in accordance with a methodology approved by Ofgem. Charging out of scope for SHETL.

The prevailing approach gives annual charges for generation that are high in the north and low (or negative) in the south, vice-versa for demand.

Charging NETSO sets charges in accordance with principles agreed with Ofgem.

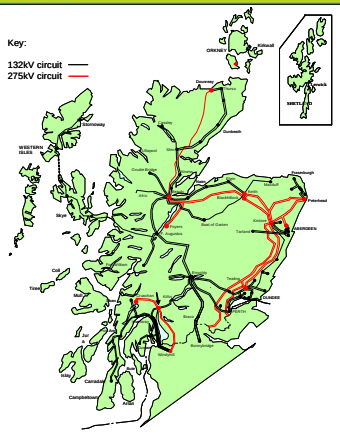
Distribution Wires Ownership

Scottish Hydro Electric Power Distribution (SHEPD)



The distribution network in the north of Scotland is owned and operated by SHEPD

Existing north of Scotland transmission system



Transmission Price Control

Stakeholder communications presentation

Transmission Price Control Review 5 (TPCR5)

SHETL is regulated by Ofgem through a 'price control' this determines the amount of revenue SHETL can earn and the capital investment we can make in developing; maintaining and upgrading the transmission network.

Ofgem has been reviewing the way the electricity and gas networks in GB are regulated and recommends an outputs-led approach to network regulation,

- this will apply to the price control from 1 April 2013, (TPCR5), for a period of 8 years to 2021.

RIIO Approach to Regulation

The approach
- Consumers know what they are paying for
- Incentives on network companies to deliver
- Outputs reflect enhanced engagement with stakeholders
- Transparent 'contract' on what networks required to deliver in return for revenue from consumers
- Outputs reflect what is needed from networks for delivery of sustainable energy networks
- Informed by enhanced engagement leading to well justified business plans

Outputs led
- Companies to engage effectively with wide range of stakeholders
- Ofgem to develop engagement with stakeholders
- Ofgem will remain decision-maker

RIIO

Revenue = Incentives + Innovation + Outputs

Key issues for SHETL

Outputs
- Environmental Impact
  - Mitigation
  - Undergrounding (Areas of Outstanding Natural Beauty)
  - Carbon footprint
- Network Connections: timely and transparent
- Safe Operation employees and public safety
- Customer satisfaction
- Network reliability verse cost

Renewables Growth
- Forecasting renewables growth: its location, scale and timing
- Developing network appropriately

Stakeholder communications presentation

Proposed Engagement Timetable

SHETL wishes to engage early and widely and allow stakeholders to contribute.

Aug – Sept 2010
- Stakeholder engagement commenced
- Identify issues and outputs

Oct – Dec 2010
- Face-to-face presentations with key stakeholders / gather feedback / prepare draft business plan

Jan – Feb 2011
- Publish and consult on business plan 'Green Paper' informed by and including stakeholder feedback and Ofgem consultation

Spring 2011
- Publish business plan 'White Paper' informed by stakeholder consultation

May 2011
- Finalise business plan for Project Board approval

July 2011
- Submit substantive Business Plans to Ofgem

Drivers for Network Investment

Stakeholder Engagement

SHETL Engagement Strategy
- Letters issued to key stakeholders
- Transmission Review Web site set up www.SSE.com
- Dedicated email (transmission.review@sse.com)
- Publication of feedback

First Draft Business Plan (Green Paper) available for consultation Jan/Feb 2011

Final Draft Business Plan (White paper) available for consultation Spring 2011

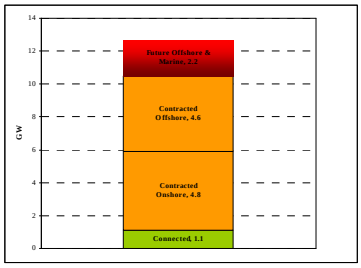
Scottish Government Targets

Scottish Government has increased the 50% national target of electricity consumption to come from renewables such, as wind and wave power, to 80% by 2020

Stakeholder communications presentation

SSE

Connection Summary – 12.7GW
(Excludes Pre-1990 Hydro)



Existing system can accommodate 1.5GW.

Transmission works have been identified to accommodate additional contracted schemes. A number are under construction.

Future position kept under review. Additional transmission works may be required, but will depend on utilisation of existing works.

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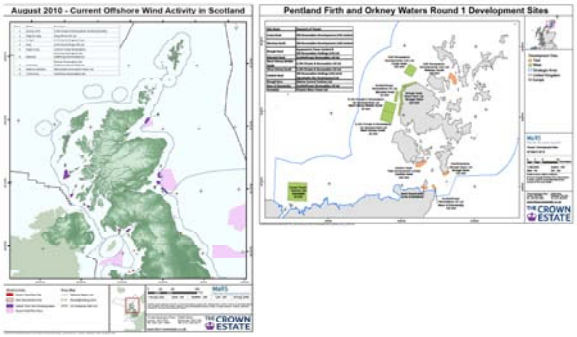
Infrastructure Development

SSE

Offshore Renewables Map



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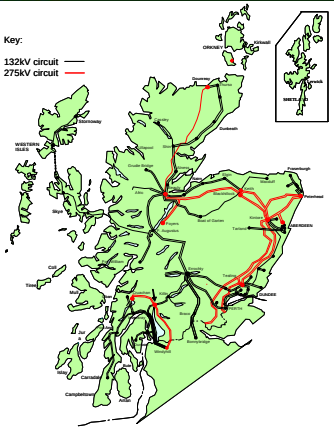


Existing north of Scotland transmission system

Stakeholder communications presentation

SSE

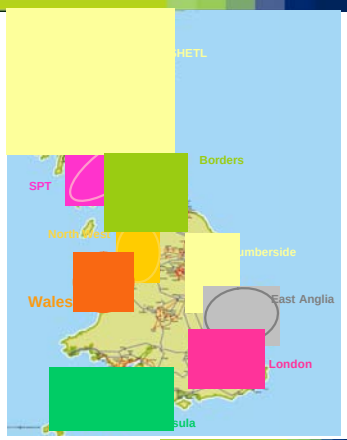
2020 Grid Study

Electricity Networks Strategy Group (ENSG) GB wide study

34GW renewables

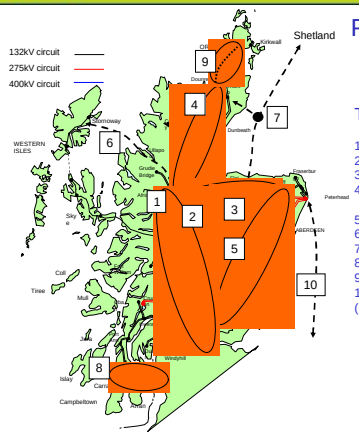
Three scenarios for Scotland

- 6.6GW
- 8GW
- 11.4GW



SSE

Planned developments



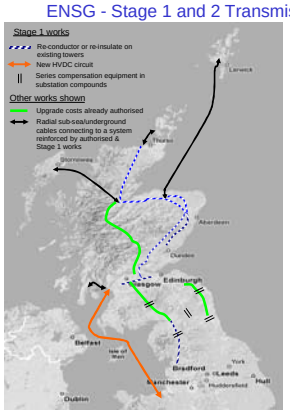
Transmission upgrades

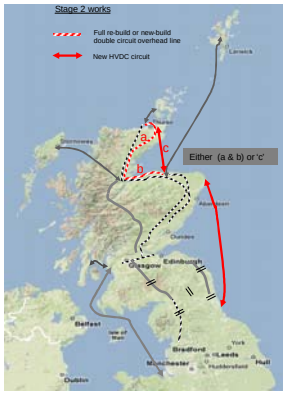
1. Beauly-Denny rebuild
2. Knocknagael substation
3. Beauly to Kintore 275kV re-conductor
4. Beauly-Dounreay 2nd Circuit on existing towers
5. East Coast re-insulation and re-conductor
6. Western Isles Link (HVDC)
7. Caithness-Moray with hub option
8. Kintyre-Hunterston subsea link
9. Orkney reinforcement
10. East Coast HVDC link

(Plus other local, radial reinforcements)

SSE

ENSG - Stage 1 and 2 Transmission Reinforcements in Scotland





SSE

Infrastructure Messages

Infrastructure required to facilitate development or potential development of renewables

Timing issues
- Pace and scale
  - Too early – stranding, sub-optimal, cost to consumer
  - Too late – constraints, inefficient, cost to consumer

Justified and aligned with
- Councils – consistent with Development Plans
- Developers – consistent with applications

Stakeholder communications presentation

SSE

Security and Quality of Supply Standard (SQSS)

- SHETL has licence obligation to plan, develop and maintain an efficient, co-ordinated and economical system of electricity transmission in the north of Scotland and
- to facilitate competition in the supply and generation of electricity

- Transmission development is carried out in accordance with the Security and Quality of Supply Standard (SQSS)
  - Common standard across GB
  - Design of generator connections
  - Design of demand connections
  - Design of the Main Interconnected transmission System

SSE

OUTPUTS

SSE

Security and Quality of Supply Standard (SQSS)

- The SQSS is also currently under review
- Current philosophy is based on deterministic minimum transmission requirement, additional transmission to be justified on cost-benefit

- Key Questions
  - Are you happy with the level of demand security provided?
  - Are you happy with generation connection principles?
  - Are you happy with the level of transmission capacity provided by the SQSS?
  - Any improvements on the above key areas?/suggestions?

SSE

Ofgem Outputs

Environmental Impact

Safety
Reliability

Conditions for Connection
Customer Satisfaction

Social Obligations

Stakeholder communications presentation

Primary Outputs and Secondary Deliverables

Environmental Impact
- SF6 leakage
- TO Business Carbon Footprint
- Visual Amenity considerations

Primary Outputs and Secondary Deliverables

Conditions of Connections
Monitoring and reporting of 3 areas:
Pre-application, application and construction

Customer Satisfaction
Independent surveys and feedback
Stakeholder engagement

Primary Outputs and Secondary Deliverables

Safety
Public Safety – ESQCR Regulation 31 incidents
Asset Condition
TO's staff Safety (Total Recorded Injury Rate) TRIR Rate) inc. Contractors

Reliability
Network Output Measures (NOMs) including health & criticality to drive replacement priority
Energy Not Supplied (ENS)
Constraints; associated with Wider Works; and Enabling Works; SO/TO interaction

Environment Messages

Losses
Average (UK) transmission losses 1.93% (2009/10) for NGET, SPTL& SHETL
Consideration in project economics – BD at 400kV, HVDC, Sizings
Constraint management
Planned outage management

Planning and visual
At system level – existing routes, offshore
Within EA of projects

Role of underground cables
Lead-ins and wirescape rationalisation (Beauly, Torness, Converter stations)
AONB (Areas Of Natural Beauty) at 132kV
HVDC systems – Western Isles, offshore

SF6 0utput
Leakage management

Increased environmental reporting
Transmission Business carbon footprint breakdown and reporting

Flood defence
Provision for hydro generation locations and 200 year flood locations

Stakeholder communications presentation

Developers

Information provision
- Guidance and updating / reporting throughout life cycle

Connections
- Pre-application phase – feasibility, info on process guidance
- Application phase – 90 days, info provision
- Construction phase – time to connect, info provision, liaison.

Signalling
- Applications
- Underwriting

NETSO issues
- TNUoS charges
- Customer choice – non-firm options

Base Capex

Replacing assets at end of useful lives
- Transformers
- 132kV overhead lines

Grid supply point upgrades due to embedded generation growth

Well understood need case, good level of certainty

Output measures to monitor performance – ensuring value for money

£20-£30m per annum

Capex

	Attributes	Range £m pa
Base capex	Asset replacement Uncertainty – low (within our control) Output measures	20-30
Renewable-related infrastructure	Infrastructure related to wind farm connections Uncertainty – medium (fn of developers) Revenue drivers (£/MW)	20-40
Large capital projects	Beauly-Denny, Western Isles link, east coast HVDC Uncertainty – medium (fn of zonal growth) Ofgem's TO capex mechanism	200-600

Base Capex

TPCR4 Rollover 2012/13:
- 132kV cable replacements
- 132kV line refurbishments

TPCR5 Key Messages:
- Maintaining asset health & condition
- Consistent with reliability & safety output measures
- Some asset (132kV) groups completed during period, some groups (275kV) introduced in period
- Some new drivers – e.g. undergrounding (AONB), flood defence

Categories	2010/11 (£m)	2011/12 (£m)	2012/13 (£m)
BASE LOAD RELATED	12.4	7.9	9.8
BASE NON-LOAD RELATED	12.4	14.5	22.3
TOTAL BASE CAPEX	24.8	22.4	32.1

Based on RRP submission July 2010

Stakeholder communications presentation

Renewables Capex

Over 10,000MW contracted to connect
- Onshore wind farms
- Offshore developments (wind, wave, tidal) – tip of the iceberg?

Developers at varying stages of readiness

"Connect and manage" speeds connections

Revenue drivers (£/MW) to lower risks of uncertainty

£50-£150m per annum (for enabling infrastructure)

Large Capital Projects

Wider works – reinforcing "motorways" on the network

Driven by zonal aggregation of new generation connections

Existing mechanism subjects each scheme to detailed scrutiny

£200-£800m per annum – circa £5bn over the next ten years

£700m already approved by Ofgem and in progress

Renewables Capex

TPCR4 Rollover 2012/13:
- Wind farms coming forward under Connect and Manage regime

TPCR5 Key Messages:
- Based on current forecast of connection dates
- Function of developer timescales – giving uncertainty
- Linkage to connection outputs

Categories	2010/11 (£m)	2011/12 (£m)	2012/13 (£m)
TOTAL CONNECTIONS	16.0	16.7	19.4
TOTAL CONTRIBUTIONS	-5.7	-4.9	-4.2
TOTAL RELATED INFRASTRUCTURE	8.1	17.7	32.1
TOTAL CONNECTIONS CAPEX	18.4	29.5	47.3

Based on RRP submission July 2010

What are your main issues with respect to TPCR5:

Scope of Price Control
- Focus
- Contribution (how can we work with you ?)

Renewables forecasting

Grid development

Outputs

Engagement process

Your three issues…… ?

List of stakeholders

List of stakeholders

Title	First Name	Last Name	MP	Job Title	Company Name
Mr	Johnathan	Brearley		Director Energy Strategy & Futures	Department of Energy & Climate Change
Mr	Nick	Winser		Executive Director	National Grid
Mr	Frank	Michell		Director, Energy Networks	Scottish Power (UK) Plc
Mr	Ian	Hudghton	MEP		
Mr	George	Lyon	MEP		
Mr	David	Martin	MEP		
Mr	Alyn	Smith	MEP		
Mr	Struan	Stevenson	MEP		
Ms	Catherine	Stihler	MEP		
Mr	Gordon	Banks	MP		
Ms	Anne	Begg	MP		
Rt Hon	Malcolm	Bruce	MP		
Mr	Alistair	Carmichael	MP		
Mr	Frank	Doran	MP		
Mr	Stewart	Hosie	MP		
Rt Hon	Charles	Kennedy	MP		
Mr	Angus	MacNeil	MP		
Mr	Jim	McGovern	MP		
Mr	Alan	Reid	MP		
Mr	Angus	Robertson	MP		
Mr	John	Thurso	MP		
Mr	Mike	Weir	MP		
Ms	Eilidh	Whiteford	MP		
Mr	Peter	Wishart	MP		
Mr	Robert	Smith	MP	Member	ECC Committee

List of stakeholders

Mr	Tim	Yeo	MP	Chair	ECC Committee
Mr	Danny	Alexander	MP	Chief Secretary	HM Treasury
Mr	Tom	Greatrex	MP	Shadow Under-Secretary of State for Scotland	
Mr	Charles	Hendry	MP	Minister of State for Energy and Climate Change	
Ms	Meg	Hillier	MP	Shadow Secretary of State for Energy & Climate Change	
Mr	Chris	Huhne	MP	Secretary of State for Energy and Climate Change	
Mr	Huw	Irranca-Davies	MP	Shadow Minister of State for Energy & Climate Change	
Ms	Ann	McKechin	MP	Shadow Secretary of State for Scotland	
Mr	Michael	Moore	MP	Secretary of State for Scotland	
Mr	Brian	Adam	MSP		
Mr	Alasdair	Allan	MSP		
Ms	Jackie	Baillie	MSP		
Mr	Richard	Baker	MSP		
Ms	Claire	Baker	MSP		
Mr	Keith	Brown	MSP		
Mr	Jackson	Carlaw	MSP		
Mr	Bruce	Crawford	MSP		
Ms	Roseanna	Cunningham	MSP		
Mr	Nigel	Don	MSP		
Mr	Fergus	Ewing	MSP		
Mr	Joe	FitzPatrick	MSP		
Mr	Murdo	Fraser	MSP		
Mr	Rob	Gibson	MSP	Energy, Economy and Tourism Committee	
Ms	Rhoda	Grant	MSP		
Mr	Alex	Johnstone	MSP		
Mr	Richard	Lockhead	MSP		
Mr	Lewis	Macdonald	MSP		
Ms	Tricia	Marwick	MSP		

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Mr	Michael	Matheson	MSP		
Mr	Liam	McArthur	MSP		
Mr	Jamie	McGrigor	MSP		
Ms	Alison	McInnes	MSP		
Mr	Stuart	McMillan	MSP	Energy, Economy and Tourism Committee	
Ms	Nanette	Milne	MSP		
Mr	John	Park	MSP		
Ms	Gil	Paterson	MSP		
Ms	Shona	Robison	MSP		
Ms	Mary	Scanlon	MSP		
Mr	Richard	Simpson	MSP		
Ms	Elizabeth	Smith	MSP		
Mr	Stewart	Stevenson	MSP		
Mr	John	Swinney	MSP		
Mr	Dave	Thompson	MSP		
Ms	Maureen	Watt	MSP		
Mr	Bill	Wilson	MSP	Note: White Paper returned undelivered - moved away	
Mr	Gavin	Brown	MSP		Energy, Economy and Tourism Committee
Ms	Marilyn	Livingstone	MSP		Energy, Economy and Tourism Committee
Rt Hon	Alex	Salmond	MSP		First Minister
Mr	David	Stewart	MSP		Highlands and Islands MSPs Office
Mr	Stewart	Maxwell	MSP	West of Scotland SNP Office	Unit 27, Sir James Clark Building
Mr	Neil	Bibby	MSP		
Mr	Graeme	Dey	MSP		
Mr	Fergus	Ewing	MSP	Minister for Energy, Enterprise and Tourism	
Ms	Mary	Fee	MSP		
Mr	John	Finnie	MSP		
Ms	Annabel	Goldie	MSP		

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Mr	Iain	Gray	MSP		
Mr	Patrick	Harvie	MSP		
Mr	Margaret	MacDougall	MSP		
Mr	Mike	Mackenzie	MSP		
Ms	Jenny	Marra	MSP		
Mr	Mark	McDonald	MSP		
Mr	Willie	Rennie	MSP	Leader, Scottish Liberal Democrats	
Mr	Dennis	Robertson	MSP		
Mr	Michael	Russell	MSP		
Mr	Tavish	Scott	MSP		
Mr	Kevin	Stewart	MSP		
Ms	Jean	Urquhart	MSP		
Mr.	Neil	Grant		Head of Economic Development	6 North Ness Business Park
				Infinis Limited	A'Chruach Wind Farm
Mr	Steven	Blanche		Key Account Manager	ABB Limited
Mr	David	Jennings		Strategic Development Plan Manager	Aberdeen City & Shire Strategic Development Planning Authority
Ms.	Maggie	Bochell		Head of Planning and Infrastructure	Aberdeen City Council
Ms.	Christine	Gore		Director of Planning and Environmental Services	Aberdeenshire Council
Mr	Dave	Walker		UK Country Sales Director	ALSTOM GRID UK LIMITED
Mr.	Eric	Lowson		Director of Infrastructure	Angus Council
Mt	Jonathan	Halliday		Transmission Sales Director	AREVA T&D UK Ltd / Alstom & Schneider
Mr.	Angus	Gilmour		Head of Planning and Regulatory Services	Argyll and Bute Council
Ms	Audrey	Martin		Senior Planning/Development Officer	Argyll and Bute Council
Mr	David	Porter		Chief Executive	Association of Electricity Producers
Mr	Ian	Job		Head of Business Development	BABCOCK INTERNATIONAL GROUP - NETWORKS DIVISION
Mr	Derrick	Morrice		Operations Director	BALFOUR BEATTY ENGINEERING SERVICES

List of stakeholders

Mr	Bill	Merry	Business Development Director	Balfour Beatty Engineering Services Limited
Dr	Howard	Porter	Chief Executive Officer	BEAMA
Mr.	Nick	Oppenhein		Beinn Mhor Power
Mr	Craig	English	Marine and Salvage Operations Manager	Briggs Marine
Mr	Andrew	Kinninmonth		Briggs Marine
Ms	Fiona	Monaghan	Environmental Consultant	Briggs Marine
Mr	Paul	McGuire	UK Sales Manager	C G Power Solutions UK Ltd
Mr	Tom	Llewellyn	Regional Manager	CAA Scottish Office
Mr.	Gerry	Dallas	Executive Director, Services to Communities	Clackmannanshire Council
Ms	Lesley	Campbell	Operations Director Scotland	Clancy Dowrca
Mr	Nicholas	Gubbins	Chief Executive	Community Energy Scotland
Mr	David	Balharry	Head of Crofting Services	Crofters Commission
Ms	Marieke	Dwarshuis	Senior Director	Customer Focus Scotland
Mr	Simon	Yates	Senior Estates Surveyor	Defence Estates (Scotland)
Mr	Simon	Virley	Director General, Energy Markets & Infrastructure	Department of Energy & Climate Change
Mr.	Mike	Galloway	Planning Director	Dundee Council
Mr	Guy	Madgewick		Eneco Wind UK Limited
Mr	Norman	Kerr	Director, Scotland	Energy Action Scotland
Mr	Simon	Coote	Head of Consents and Deployment	Energy Consents Unit
Mr	David	Smith	Chief Executive of ENA	Energy Networks Association
Mr	Larry	Clare	Development Director - Major Projects	ENTERPRISE POWER SERVICES
Mr.	Charles	Williams		Falck Renewables
Mr	Damon	Hewlett	Private Secretary (Energy)	First Minister's Office
Mr	Michael	Ansell	Head of Forest Renewables	Forestry Commission Scotland
Mr	Bob	McIntosh	Director, Scotland	Forestry Commission Scotland
Mr	Jim	Moohan	FTO	GMB
Dr	Doug	Parr		Greenpeace
Mr.	John	Morgan		Greenpower
Mr	John	Madden	HM Principal Specialist Inspector	Health and Safety Executive

List of stakeholders

Mr	Alex	Paterson	Chief Executive	Highlands and Islands Enterprise
Ms	Ruth	Parsons	Chief Executive	Historic Scotland
Dr	Paul	Stollard	HSE Director Scotland	HSE
Mr	David	Walker		Iberdrola OFTO
Ms	Linda	Rosborough	Acting Director	Marine Scotland
Mr	Alastair	Keddie	Chief Executive	Moray Council
Mr	Julian	Leslie	Electricity Customer Team Manager	National Grid
Ms	Sarah	Allen	NERL Safeguarding Department	NATS
Mr	Justin	Lotak		NBW Wind Energy Limited
Mr	James	Withers	Chief Executive Officer	NFU Scotland Head Office
Mr	Alastair	Dawson		NIE Powerteam Electrical Services
Mr	Stuart	Cook	Senior Partner, Transmission and Governance	OFGEM
Mr	Charles	Gallacher	Director of Scotland, Wales and Regions	OFGEM
Ms	Sarah	Harrison	Managing Director, Corporate Affairs	OFGEM
Mr.	Ian	Johnstone	Chairman of the Development Committee	Orkney Islands Council
Mr.	Albert	Tait	Chief Executive	Orkney Islands Council
Mr.	Roland	Beam	Head of Planning	Perth and Kinross Council
Mr	Chris	Finnerty	FTO	PROSPECT Scotland
Mr	Michael	Cowley	Business Manager HV Systems	PRYSMIAN CABLES & SYSTEMS
Mr	Bruce	Clark	Managing Director	R J MCLEOD (CONTRACTOR) LTD
Ms	Maria	McCaffery	Chief Executive of Renewable UK	RenewableUK
Mr	Guy	Nicholson	Head of Grid	RenewableUK
Mr	Richard	Ford		RES Limited
Mr	Stuart	Housten	Director, Scotland	RSPB
Mr	Simon	Holt		RWE Npower Renewables Limited
Mr	John	Edwards	Unit Managing Director	Schneider Electric
Mr	Mark	Mathieson	Managing Director, Networks	Scottish and Southern Energy

List of stakeholders

Ms	Lena C	Wilson	Chief Executive	Scottish Enterprise
Dr	Eleanor	Scott		Scottish Green Party
Ms	Jane	Clark	Head of Renewables	Scottish Natural Heritage
Mr	Ian	Jardine	Chief Executive	Scottish Natural Heritage
Mr	Allan	Kelly		Scottish Power (UK) Plc
Mr	Alan	MIchie		Scottish Power (UK) Plc
Mr	Niall	Stuart	Chief Executive	Scottish Renewables
Mr	Campbell	Gemmell	Chief Executive	SEPA Corporate Office
Mr	Eric	McRory	Principal Economist	SEPA Corporate Office
Mr	Gordon	Greenhill	Executive Director Infrastructure Services Dept.	Shetland Island Council
Mr	Iain	McDiarmid	Head of Planning Service	Shetlands Islands Council
Mr	Dave	Gooch	Business Manager	SIEMENS T&D
Ms	Jackie	McCreery	Policy Director	SRPBA
Mr	Paul	Smith	Director of Generation	SSE Generation Limited
Ms	Jane	McArdle	Grid Manager	SSE Renewables
Mr	Bob	Jack	Chief Executive	Stirling Council
Mr	Alan	Laidlaw	Head of New Business Development	The Crown Estate
Mr.	Stuart	Black	Director of Planning and Development	The Highland Council
Mr.	Ian	Ross	Chair Planning & Economic Development Committee	The Highland Council
Mr	Stuart	Brooks	Chief Executive	The John Muir Trust
Ms	Kate	Mavor	Chief Executive	The National Trust for Scotland
Mr	Ed	Taylor	Representative in Scotland	The Prince's Foundation for the Built Environment
Ms	Lucy	Blackburn	Deputy Director, Climate Change	The Scottish Government
Mr	Robert	Henderson	Energy Markets	The Scottish Government
Mr	Colin	Imrie	Deputy Director, Energy Markets	The Scottish Government
Ms	Sue	Kearns	Head of Onshore Renewables	The Scottish Government
Mr	Mike	McElhinney	Energy Markets	The Scottish Government
Mr	Neal	Rafferty	Offshore Renewables	The Scottish Government
Mr	David	Wilson	Director of Energy	The Scottish Government

List of stakeholders

Mr	Mike	Jeram	NO Joint Secretary	Unison
Mr	Billy	Parker	FTO	UNITE-AMICUS
Mr	Ian	Methven	FTO	UNITE-TGWU
Ms	Louise	Pepper		Vattenfall
Ms	Elaine	Greig		Vattenfall Wind Power
Mr	Alan	Wisharrt		Viking Energy
Mr.	Keith	Bray	Director of Development Services	Western Isles Council
Mr.	Calum Iain	Maciver	Director of Development	Western Isles Council
Mr	Mike	Davis		Wind Energy (Glenmorie) Limited
Dr	Richard	Dixon	Director, Scotland	WWF Scotland
Ms	Nadine	Brown	Business & Industry, Scotland Office	
Mr	Steve	Pottinger		
Mr	Michael	Veitch	Head of Research, Scottish Conservatives	