

**BRIEFING NOTE FOR CABINET SECRETARY FOR RURAL ECONOMY AND CONNECTIVITY AND MINISTER FOR BUSINESS, INNOVATION AND ENERGY**

**MEETING WITH DAVE GARDNER SHE-TRANSMISSION  
WEDNESDAY 15 MARCH 2017, 15:15 – 16:00**

<b>Who</b>	<b>Dave Gardner, Director of Transmission SSE Greg Clarke, Corporate Affairs SSEN</b>
<b>What</b>	<p><b>Discussion will cover:</b></p> <ol style="list-style-type: none"> <li>1. Island Connections</li> <li>2. National Grid's Network Options Assessment including: <ul style="list-style-type: none"> <li>• Beauly – Blackhillock- Kintore - undergrounding</li> <li>• East Coast Bootstrap</li> </ul> </li> <li>3. Caithness – Moray</li> <li>4. GFG Alliance – Lochaber grid reinforcements - <i>(Mr Ewing)</i></li> <li>5. RIIO T2 Price Control</li> <li>6. SG points to raise : <ul style="list-style-type: none"> <li>• Afforestation – <i>(Mr Ewing)</i></li> <li>• Section 37 fees</li> </ul> </li> </ol> <p><b><u>Sensitivities:</u></b>  <b>Dorenell Wind Farm Non EIA Section 37 Grid Connection</b>  consent has been submitted to the Minister for Business, Innovation and Energy for determination. No comment on this project can therefore be made.</p>
<b>Where</b>	Parliament TG.23
<b>Attached documents</b>	<p><b>Agenda/Points to Make</b></p> <p><b>Annex A:</b> Island Connections</p> <p><b>Annex B:</b> National Grid's Network Options Assessment(NOA) &amp; Caithness – Moray</p> <p><b>Annex C:</b> Lochaber Grid connections</p> <p><b>Annex D:</b> RIIO T2 Price Control</p> <p><b>Annex E:</b> Control of Woodland Removal (CWR)</p>
<b>Official support</b>	Chris Stark - Dermot Rhatigan - Marian McSeveney -

## Agenda/Points to make

### 1) Island Connections

Both SHET and SSE's corporate businesses responded to the BEIS consultation. We are grateful for their support providing information to officials and to the consultants SG engaged to update the Grid Access Study.

We understand BEIS they have requested a meeting with SHET before the end of March to discuss costs and timetables for the Western Isles and Shetland links.

- *Greg Clark will visit Scotland on 10-11 April including a trip to Western Isles , this will include a meeting of the Scottish Island Renewables Delivery Forum but it is unclear what BEIS plans are for responding to the consultation.*
- *You may wish to ask Dave Gardner about how SHET's plans have changed for the submission of the needs cases. He will likely raise the implications for SHE -Transmission of the projects not proceeding as the scale of the projects mean they form the bulk of SSE's transmission pipeline.*
- *It would be useful to gauge SHET's reaction to the island links appearing on the National Grid list of projects that may be put out to tender under onshore competition (ITPR)?*

### 4) GFG Alliance Lochaber Grid Issues

SHET have been reviewing the engineering options for reconductoring of the 132kV Fort William to Fort Augustus line which had been due to complete 2018. This is a major project and affects a number of other customers as well as SIMEC.

REDACTED Sections 30(b)(i) and 30(b)(ii)

***You may wish to ask Dave Gardner :***

- *Which engineering option they have chosen and what is the new connection date now expected to be?*
- *If the option chosen is a full **rebuild** would this be a Strategic Wider Works project ?  
ie require a needs case submission to Ofgem*

***SIMEC are keen to explore a number of other energy projects in the area that may involve higher levels of export or import - these plans are in the very early stages of development :-***

*Would later requests for changes to contracted generation cause engineering, regulatory difficulties or further delay for SHET in planning the reinforcements in the area?*

## **ANNEX A: SCOTTISH ISLAND CONNECTIONS**

- The UK Government's consultation on '*the treatment of non-mainland GB onshore wind*' closed on 31 January. Scottish Government submitted a response and commissioned an update to the Grid Access Study commissioned through the intergovernmental working group.
- Officials worked closely alongside island stakeholders including Alec Morrison at SHE-T and understand the consultation attracted a high number of responses.
- SHE-Transmission submitted responses to the consultation .
- The Scottish Government's priority is a meeting of the Scottish Islands Renewable Delivery Forum (SIRDF) to discuss the consultation and next steps for the island projects.
- **Dave Gardner has attended all Scottish Island four meeting of the SIRDF to date.**
- Officials understand the Secretary of State Greg Clark will visit Scotland over 10-11<sup>th</sup> April and have been liaising with his office to ensure this includes a meeting of the SIRDF and a bilateral with Mr Wheelhouse. An itinerary has not been released however his office have confirmed he will be visiting the Western Isles.
- We are also aware that **BEIS officials have requested a meeting with SHE-T before the end of March** to gather additional information on costs and timetables for delivery of the transmission links.

### **SHE-Transmission**

- SHE Transmission continues to wait for clarity from the UK Government on the next Contracts for Difference (CfD) auction (e.g. timetable, strike price, budget and technology). Until this clarity is provided the developers are not able to accurately define when they will be in a position to take a final investment decision on their respective projects.
- This unfortunately directly impacts on SHE Transmission's ability to make a robust case to industry regulator Ofgem for investment in the Island Links. SHE Transmission is working closely with developers and Ofgem to minimise any delay in the delivery of the Island Links.
- SHET have recently expressed concern to officials about their islands as a key component of their pipeline of projects and the impact on their workforce if they don't proceed.

### **The Grid Connections**

#### **Shetland**

The submission of the Needs Case for the Shetland Link was scheduled for October 2016. As a consequence of the ongoing uncertainty surrounding the CfD this date is currently under review. A headline summary of the project is provided below.

- **270km 600MW single circuit HVDC cable connection between Noss Head in Caithness and Kergord on Shetland;**
- **Interfaces with the Caithness Moray circuit (currently under construction) to form a multi-terminal HVDC network;**
- **Completion in March 2021, subject to ABB contract award in June 2017; and**
- **Cost of circa £700m.**
- **Transmission charges for projects on Shetland would pay £134 per kW per annum.**

SHE Transmission is working closely with both Viking Energy and Peel Energy to align delivery programmes. It is expected that the developers will request a delay in the completion date to align with the anticipated delivery year of the next CfD auction; 2021/22 as opposed to 2020/21.

### **Western Isles**

As part of this development activity, engagement with the Supply Chain for the delivery of the Western Isles Link has identified that the accuracy of the projected cost could be improved if further site investigation work (both onshore and offshore) was undertaken.

SHE Transmission has recently updated stakeholders regarding this additional work and on a revised timetable for the Needs Case submission to Ofgem. SHE Transmission was aiming (subject to any CfD announcement in the intervening period) to submit its Needs Case to Ofgem in Spring 2017, allowing project delivery by the end of 2021. A headline summary of the project is provided below.

- **156km 600MW single circuit HVDC cable connection between Beauly on the Scottish mainland and Arnish on the east coast of Lewis;**
- **Completion in September 2021, subject to contract award in January 2018; and**
- **Cost of circa £675m.**
- **Transmission charges for the Western Isles will be £114 per kW per annum.**

The revised timetable for the Needs Case submission for the Western Isles link does not place Western Isles developers at any disadvantage over Shetland developers.

### **ORKNEY**

- Orkney has some of the best wind, wave and tidal resources on the planet – and with it the potential to make a major contribution to Scotland's and Britain's need for clean, cost-effective energy. It is however more problematic in terms of building a needs case for a cable.
- **In 2003, the European Marine Energy Centre (EMEC) Ltd was established.** For the marine sector to develop further there is a need to demonstrate that the technology is proven in a marine environment. This will give prospective funders the confidence to back large-scale commercial arrays.
- **The path to this ambition is blocked by the problem of insufficient spare capacity on the high-voltage electricity grid and a funding gap for the underwriting of strategic infrastructure upgrades.** Since 2012, there has been a moratorium on new connections to the electricity grid, constraining existing projects and causing uncertainty for the future progress of the marine sector on the islands.
- Orkney has seen movement in its contracted background with the loss of several wave power projects, and some onshore wind additions. Current total contracted background for connection dates up to 2024 is 461MW. Around 180-200 MW of that is for 2021/22 dates.
- In 2014, SHE-Transmission had proposed first and second tranches of connection to an AC 132kV link at Bay of Skail and an HVDC connection respectively. This is now being re-considered after movements in generation.
- Following a consultation in 2014 on connection options, SHE-Transmission ran an exercise to quantify future connections potential. This revealed interest from over 300 MW of generation (largely but not exclusively small wind).

## **ANNEX B: NATIONAL GRID NETWORK OPTIONS ASSESSMENT (NOA)**

**At the end of January National Grid published its second annual Network Options Assessment report .**

### **Background to the NOA**

- National Grid as the System Operator must maintain an efficient and economic balance between investing in further infrastructure and constraining the use of the system where necessary – a balance must be struck between strike a balance between the risk of stranding assets from investing too quickly and the potential high cost of constraints from investing too late.
- The NOA, lays out a vision for how the GB transmission system could develop in the next decade. It NOA summarises each reinforcement option and recommends the preferred options for where investments in the GB transmission network should be made in the year under consideration. This recommendation is based upon a cost-benefit analysis so that future system needs are met in the most efficient and economical way.
- It assesses whether it is more economical to invest in increasing boundary capacity or to continue paying constraint costs to generators through the Balancing Mechanism. NG therefore argue that a recommendation to delay or defer decision on an investment will not financially impede built generation.

### **Key outcomes for SHET area:**

- 2GW eastern bootstrap from Peterhead to Hawthorn Pit in the NE of England. The recommendation is for this project and associated reinforcements to 'Proceed'.
- The Beauly to Blackhillock 400kV double circuit was recommended to delay in the 2015/16 NOA. In 2017/18 it is not considered optimal and has been recommended as '**Do No Proceed**'.
- No recommendations have been made for the radial links to Shetland and the Western Isles on account of the UKG consultation. NG note that the economic assessment and key project milestones of the Island Links will be reviewed and amended once the outcome of the consultation is known.
- The NOA uses an in-year, cost-benefit analysis – it only concerns investment decisions for 2017/18. A recommendation of 'Do Not Proceed' is only for investment spend in 2017/18. 'Proceed' recommendations are given to projects deemed as being 'truly necessary' within the current energy landscape.

### **Onshore Competition:**

Alongside recommending to the TOs which projects it should proceed with, NG uses the NOA to recommend to Ofgem which projects might be suitable to tender.

The 2017 NOA identified the following projects in SHET's area as meeting the ECIT criteria of 'new, separable and high value':

- **Eastern subsea HVDC Link from Peterhead to Hawthorn Pit (E4DC).**
- **Orkney link.**
- **Western Isles link.**
- **Shetland link.**

### **Beauly- Blackhillock- Kintore**

The NOA has recommended that SHET do not proceed with the Beauly to Blackhillock 400kV double circuit reinforcement at this time . Our understanding is that this is because the East Coast HVDC link which was recommended to proceed will provide the boundary capacity needed in this area of the network instead .

The Beauly- Blackhillock- Kintore route was controversial as it passed through scenic areas of the highlands and early consultation by SHET on the route for the reinforcement had been met with local protest.

### **Mike Rumbles Motion**

**Immediately following publication of the NOA Mike Rumbles MSP tabled a motion in the Scottish Parliament and a debate took place on the 7<sup>th</sup> February :**

“That the Parliament notes the concern that has been expressed by communities in proximity to Scottish and Southern Electricity Network’s proposed Blackhillock to Kintore transmission reinforcement regarding the development’s potential visual impact; understands that the National Assembly for Wales unanimously passed a motion on 18 January 2017 endorsing the use of underground cables and alternatives to pylons where feasible, with a view to minimising the visual impact of such infrastructure; reiterates what it sees as the need for effective community consultation and the importance of incorporating feedback as a means for addressing such concerns; believes that the outstanding natural beauty of this countryside, for example the area around Bennachie, must be protected, and notes what it considers are the communities’ urgent calls for the existing plans to be the subject of substantial change and mitigation action in order for this to be achieved.”

- Scottish Planning policy already states “Consideration should be given to underground grid connections where possible.”
- However during the debate Mr Wheelhouse undertook to consider with officials whether planning policy should be changed to express a **preference** for undergrounding over overhead lines.
- We would like to commence dialogue with Scottish Transmission companies to better understand at what point and in what circumstances (apart from designated areas e.g National Parks) during planning and routeing of proposals for new or replacement transmission infrastructure Scottish transmission companies consider undergrounding.

### **CAITHNESS MORAY**

- SHE-T is currently installing the Caithness – Moray subsea HVDC cable project which is due for completion by the end of 2018..
- It represents a £1.1bn capital investment, centred on a submarine cable capable of carrying up to 1.2GW beneath the Moray Firth.
- With associated reinforcement of the existing onshore transmission network, the project will represent the largest investment in the north of Scotland’s electricity network since the hydro development era of the 1950s.
- The cable transports power between converter stations at Spittal in Caithness and Blackhillock in Moray. Reinforcement of the onshore transmission network between Dounreay and Mybster in the north; and between Loch Buidhe and Beauly further south will improve the use of the existing network in combination with the cable.

- It has been estimated that around £643.5m has been, or will be, spent with UK-based suppliers and contractors.
- Much of the non-UK expenditure was spent on the procurement of goods that the UK does not currently have the technical capacity and expertise to produce. For example, over £330m (around 70% of non-UK spend) was spent with ABB for the submarine cables and associated marine costs.
- Over half of all UK expenditure, in total just under £330m, has or will be spent with Scottish contractors and suppliers. This means that around 30% of expenditure for this £1.1bn project will be spent in Scotland.

## **ANNEX C: LOCHABER GRID ISSUES**

As part of the deal that includes the nearby Lochaber aluminium smelter and hydro Liberty House Group and SIMEC have also purchased the Kinlochleven Hydro station near Fort William.

REDACTED under **Section 33(1)(b)**.



## **ANNEX D: RIIO PRICE CONTROL**

To ensure that network investment is delivered at a fair price for consumers Ofgem developed RIIO (Revenue=Incentives+ Innovation+Outputs) – a performance based model for setting the network companies' price controls, which last eight years.

RIIO is designed to encourage network companies to:

- Put stakeholders at the heart of their decision making process
- Invest efficiently to ensure continued safe and reliable services
- Innovate to reduce network costs for current and future consumers
- Play a full role in delivering a low carbon economy and wider environmental objectives

**Transmission (RIIO-T1)** – This price control relates to the high voltage transmission of electricity for the period 2013 to 2021 .

Under RIIO, Ofgem asks companies to submit well-justified business plans detailing how they intend to meet the RIIO framework objectives. It places a strong emphasis on stakeholder engagement and companies must get stakeholders' input and demonstrate how this has been used to develop their plans.

Ofgem reviews plans to determine what levels of scrutiny they will apply. Where a company's business plan is of particularly high quality They determine whether the company's new price control settlements can be agreed early – i.e. fasttracked. Those companies that are not fast-tracked are asked to resubmit their business plans to Ofgem.

As part of the transmission price control (RIIO-T1), Scottish Power Transmission and Scottish Hydro Electricity Transmission (SSE) were fast-tracked and their price controls were finalised in April 2012. The price controls earmark around £7 billion of investment for Scotland's high voltage network, delivering much needed investment to replace ageing infrastructure and enabling greater connections to renewable generators.

The mid-term review of RIIO T1 is underway and will focus on extra costs of NG in its role producing the NOA however SHET have highlighted that they too work closely in supporting NG in its modelling and preparation of the NOA and that these costs should be logged and reflected in future price controls.

**Transmission (RIIO T2)** - the next price control will run from 2022-2030 and preparations are already underway . Officials have had some discussions already given the emphasis the regulator places on stakeholder engagement.

## **ANNEX E: CONTROL OF WOODLAND REMOVAL (CWR)**

Under the draft Climate Change Plan, by 2032 Scotland's woodland cover will increase from around 18% to 21% of the Scottish land area. The woodland creation target will increase from the current target of 10,000 hectares per year to 12,000 hectares per year from 2020/21, with additional subsequent increases.

SG encourages applicants to fully consider the need for removal, the opportunities for re-design of the existing woodland and also to explore replanting in and around the proposed development site. Once these have been fully explored and exhausted, off site compensatory planting should be considered.

### **SSEN have developed a protocol for engagement between network operators and FCS which should improve consultation and cooperation on the issue.**

We understand from FCS that have been tasked with:

1. understanding the scale of woodland removal due to energy infrastructure
2. understanding the efficacy of compensatory planting schemes that have been required by the conditions of consent for these developments
3. addressing problems in the system which undermine the Control of Woodland removal policy in relation to energy developments
4. [FCS have also suggested considering if there are potential opportunities for *increasing* forest cover through these arrangements]

### **Development Corridors**

Currently, woodland removal that is required under the Electricity Act to construct and maintain a power line is exempt does not require a felling licence and is not subject to compensatory planting.

FCS have proposed the following widths for development corridors:

- Distribution infrastructure (less than 132kv) = 30m
- Transmission infrastructure (132kv and above) = 50m.

Network operators are challenging the 50m width for transmission infrastructure in particular, favouring an 80m corridor.

### **Compensatory Planting**

There are clear issues relating to the current application of the compensatory planting obligation. In particular:

- Conditions of consent are enforced and discharged by planning authorities who have limited locus in this area and limited resource to ensure compliance.
- Network operators are not land owners, nor as regulated businesses do they have a remit for afforestation.

### **Monetary Compensation**

The question of whether a financial contribution could be made to FCS or FES for them to undertake compensatory planting is often mooted by developers and network operators. FCS' position on this appears to be that land acquired by the Scottish Ministers to deliver woodland creation targets is a scarce resource and, as compensatory planting does not count as new woodland, they would therefore seek to minimise the use for compensatory planting of the land they have acquired for woodland creation.

### **Proposal**

It is proposed that a forum is established, including FCS, SG Energy, Scottish Renewables with selected wind developers, SPEN and SSEN. Officials (Simon Coote, Head of Energy Solutions Unit) have recently commenced engagement with FCS, network operators and the Scottish Renewables with a view to addressing issues relating to the CWR policy and energy infrastructure. All parties with whom this has been discussed so far are agreeable to this.