

**MINUTES OF THE
ELECTRICITY NETWORKS STRATEGY GROUP (ENSG)**

OFGEM, LONDON

1330 Monday 11TH July 2016

Present:

Co-Chairs (Rotating)

Ofgem
DECC

Kersti Berge (Chair)
David Capper (Chair)

Members

National Grid (SO)
National Grid (SO)
Renewable Energy Systems
Transmission Investment
Scottish Hydro Electric Transmission plc
Scottish Government
UK Power Networks
Northern Power Grid

Julian Leslie
Lilian Macleod
Patrick Smart
Chris Veal
Danny McMillan
Damon Hewlett
Paul Elliot
Mark Drye

Dialling in

Renewable Energy Systems

Patrick Smart

Also in Attendance

DECC
Ofgem
Ofgem

Giles Holford
Geoff Randall
Saad Mustafa

Apologies

Welsh Government
SP Transmission
Renewable UK
Crown Estate
National Grid

Ron Loveland
Alan Kelly
Gordon Edge
Richard Clay
Lloyd Griffiths

Welcome and Introduction including minutes and actions from last meeting

1. The Chair welcomed participants to the meeting. The meeting notes from the 7 December 2015 ENSG meeting had been agreed, circulated and published on the ENSG webpages. The Chair noted that all the actions from the December meeting had been completed.

System Operator Update on the Future Energy Scenarios

2. The System Operator (SO) provided an overview of its 2016 Future Energy Scenarios (FES)¹, which had been published at the end of November. The scenarios were based on the energy trilemma of security of supply, affordability and sustainability. They provided stakeholders with a range of 'plausible and credible' pathways for the future of energy out to 2050. It covered electricity and gas, as well as supply and demand.
3. The SO noted that the major takeaways from this year's FES were:
 - The decarbonisation agenda was driving significant changes to the energy supply market. Traditional sources of supply were being replaced with an ever-divergent mix (estimated 5GW decline in fossil fuel generation in 2016, while renewable capacities increased. At the same time their scenarios showed a maximum of 18GW of electricity storage by 2040).
 - Over the past year the volume of renewable electricity sources had increased substantially. While the electricity generation sector was on the required trajectory, significant progress was still needed in the heating and transport sectors if the UK was to meet the 2020 renewable target on time (to reach the target, a 170% increase in renewable heat would be required – an increase of around 60 TWh).
 - Action needed to be taken this decade to drive progress towards the 2050 carbon reduction target - three key technologies which will enable electricity decarbonisation were: nuclear, renewables and carbon capture and storage (CCS). The cost-optimal pathway utilises all three of these technologies; approximately 22 GW of nuclear, 100 GW of renewables and 20 GW of CCS in 2050.
 - The importance of gas in GB's energy mix was further emphasised this year. It would continue to play a key role in energy decarbonisation, by providing flexible electricity generation and top-up heating over the long term. Gas would support the electrification of heating by providing top-up heating at peak times. In 2030 in the Gone Green scenario, 70% per cent of homes would still use gas for all, or part, of their heating requirements.

Discussion

4. A question was raised as to how the four scenarios in the FES related to the ENTSO-E Ten Year Network Development Plan (TYNDP) scenarios. The SO highlighted that there was no direct correlation between the two due to the different inputs and requirements. However, the SO also noted that the ENTSO-E

¹ National Grid's 2016 FES <http://fes.nationalgrid.com/>

report also had four scenarios (Visions 1-4) and there may be some similarities with the SO's Gone Green and No Progression scenarios, albeit with some degree of flex.

5. A member queried how the new Pan-European Model would impact future publications of the FES. The SO noted that the new model would allow them to forecast what capacity was needed and when, for the net benefit of the GB consumer.
6. The Chair asked the SO to provide a high level overview of storage in the FES. National Grid pointed out that Consumer Power and Gone Green were the two scenarios most favourable to storage. They forecast 1GW of storage on the network by 2020, and noted that there was 30MW of battery storage currently on the network; however this was mostly for trial purposes. The SO also noted that the FES highlighted some commercial and regulatory barriers that would need to be overcome for storage to become prevalent on the network.
7. UKPN noted that DNOs were trying to see themselves as more active network managers and the insights provided by the FES were very useful in that regard.
8. The Chair questioned whether storage assumptions were reliant on improvements in the commercial and regulatory frameworks; and what contributed to storage numbers being significantly higher than in last year's FES. The SO noted that better market conditions, clarity on commercial and regulatory frameworks, and how batteries are defined would all contribute to its increased uptake. It was also noted that storage was needed to allow the levels of embedded generation that were currently on the network. The SO noted that it saw at the System Operability Framework, the Power Responsive document, and the FES as one, to see interactions and get a holistic view of the network.
9. Ofgem questioned whether batteries could provide a frequency response service. The SO explained that they could. In fact it noted that storage can have a number of potential applications such as balancing and ancillary services, asset services and wholesale and arbitrage services. A full list was available in the FES document.
10. A member questioned whether the FES would be revisited once the impact of the unfolding political changes becomes clearer. The SO noted that the FES provided an envelope of options and any change should still fall within that envelope.
11. A member questioned what actions needed to be taken this decade to meet the 2050 targets. The SO highlighted the continued decarbonisation of electricity generation, decarbonisation of heat (with a policy framework for consumers to switch from gas boilers), and electric vehicles as a mass form of transport as the key areas. This would require a least two of renewables, Carbon Capture and Storage (CCS) and nuclear technologies.

3. SO Update on the Network Options Assessment (NOA)

12. The SO provided an update on its NOA, which described the options that the Transmission Owners had provided to meet reinforcement requirements of boundaries on the national electricity transmission system. The report went on to identify the SO's preferred option or options based on Cost Benefit Analysis for each boundary.
13. For the 2015/16 NOA, The SO had considered more than seventy GB transmission system investment options. Of those proposed options, thirteen projects that required a decision this year were identified.
14. Their draft NOA 2 methodology was now at an advanced stage. Their consultation had now closed and the methodology was to be submitted to Ofgem by August 2016.
15. The SO would also provide a view as to whether development options met competition criteria i.e. new, separable, and high value.
16. The SO was working closely with TOs to agree /gather sufficient data on option costs for economic analysis and cost scrutiny. Consideration was being given to contracting out the detailed scrutiny of TO costs to a third party with relevant asset, project management and construction cost expertise.

4. SO update on congested grids

17. The SO updated members on the effect distributed generation was having on the transmission system in terms of high voltages, export limits, forecast errors, reduction in inertia, and contracts for services beyond the distribution and transmission boundaries.
18. In April 2015 the SO had indicated it was not in a position to offer connections to embedded generators. However, following a number of commercial and operational actions undertaken, it had been able to make over 9GW of connection offers.
19. On the commercial side, connections above 1MW now needed to go through the Statement of Works process; there were restrictions being applied to certain connections, and there was greater data sharing with between the SO and the DNOs.
20. On the operational side, there were now lower target voltages on the DNO network, switch out transmission circuits on the network for voltage control, and an ensured capacitive compensation plant on the DNO network is switched out.
21. A number of issues still existed however and would require further actions. The SO highlighted South Wales as an example of an area that was still constrained (for new thermal generation).

Discussion

22. A number of members indicated that although there had been improvements some of the measures undertaken by the SO were short-term. There was a need for a review of grid connection arrangements and a longer term strategy or roadmap.
23. One member indicated that constrained connections at the distribution level were not a no-cost option, as they incurred costs for the generator. This should be factored into future decisions.
24. The SO stressed that solutions were available but there were questions surrounding the timing of these remedies and their commercial viability.

5. Issues arising from the EU referendum result

25. DECC provided an update on issues that the government would be dealing with in relation to the networks over the coming months and years as a result of the recent EU referendum result.
26. It was explained that the UK was currently still a part of the EU and that existing legislation (including regulations and directives) remained in place for the time being.
27. Government policy on Interconnectors had not changed as the case for these continued to be based on solid market fundamentals. DECC further highlighted that the UK was still obligated by the current EU network codes, and current work on these would continue.
28. Going forward DECC would be considering the implications of the referendum on all aspects of the networks. Members were asked if they could consider this too and let DECC know of any particular issues or concerns that they identified.

Discussion

29. Transmission Investment indicated that it was pressing ahead with their project for a new Interconnector with France.
30. One member queried the extent to which the UK would still be a part of the internal European Energy Market, or whether there would be a more bilateral type arrangement with tariffs. DECC explained that this is one of the areas that would become clearer in due course, when any negotiations got underway.
31. The Chair highlighted that whilst Ofgem was an independent regulator and therefore not at the frontline of negotiations, it would also welcome comments or questions on this issue from stakeholders through the ENSG Secretariat.

Action 1 ENSG members to consider issues arising from the EU referendum that might need government to consider and let DECC and Ofgem know.

5. TO updates

32. National Grid and Scottish Hydro Electric Transmission (SHE Transmission) provided an update on their major projects.
33. SHE Transmission highlighted the Beaulieu-Denny line which had been energised at the end of last year and would be fully completed by September and the Caithness-Moray project which was under construction -this was on track for delivery in 2018.
34. SHE Transmission was also developing the needs cases for the proposed Western Isles and Shetland links, which it planned to submit to Ofgem when needed (these were dependent on the forthcoming CfD allocation). The proposed Orkney link was also under consideration, taking account of changes in generation deployment.
35. National Grid highlighted their Mid-Wales project, which remained suspended following uncertainties around generation levels and the North Wales project where the connection date was being put back due to revised generation timescales.
36. National Grid also mentioned that a decision had recently been made on SP Transmission's Dumfries & Galloway Strategic Reinforcement project, which was now planned to be a smaller project than originally envisaged.

6. Mid Period Review (MPR) update

37. Ofgem gave a short update on its Mid Period Review of RIIO-T1 and GD1.
38. Ofgem had decided to launch an MPR for the RIIO-T1 price control looking at some specific issues in Electricity Transmission for National Grid Electricity Transmission and Gas Transmission for National Grid Gas Transmission.
39. No issues had been identified as being within scope of an MPR in RIIO-T1 for either of the Scottish Transmission Owners. Ofgem had further decided not to launch an MPR for the RIIO-GD1 price control.

7. AOB and next meeting

40. Members discussed the purpose of the ENSG and whether it remained a useful forum.
41. Transmission Investment said that whilst it was a big meeting, they thought that the new twice-yearly format worked well. They further pointed out that while some of the issues it looked at were considered in other forums, it was able to cover other issues that were not being captured, thus had an added value. They added

that given how quickly the networks were now evolving it was likely that other issues could easily arise, that could be picked up by the ENSG.

42. The SO mentioned that the ENSG had been more strategic in the past and ideally should look at where the electricity system should be in 3-5 years' time and the steps needed to get there.
43. RES pointed out that the rationale for the ENSG had changed as today's challenges were different than those posed when the group was first formed. For instance there was currently a good deal of discussion on DNO/TO/SO interaction, and a group such as this was useful to help prevent stakeholders from working in silos.
44. UKPN highlighted that technological advances would mean the network will change going forward and it was therefore good to be able to discuss these issues in this forum.
45. The Chair indicated her preference for the ENSG to look more at whole system issues as other forums covered more specific aspects of the networks.
46. DECC pointed out that a lot of the new behaviours that the ENSG has promoted had since become embedded into our way of working.
47. The Chair thanked members for their time and effort. She indicated that the Secretariat would shortly send round the minutes of this meeting and a provisional date for the next meeting.

Action 2:

ENSG Secretariat to circulate minutes of this meeting and send out the date for the next meeting (likely in December).