

National Energy System Operator Strategic Planning Webinar Q&A



ESO

Q&A from NESO Webinar: Strategic Planning 1st March 2024

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At the beginning of March 2024, we ran a webinar focusing on the new responsibilities that NESO will take on from the first day of its existence across Strategic Planning. The webinar explored how NESO will deliver national and regional energy planning, bringing electricity, gas and hydrogen plans together to efficiently deliver net-zero. This document contains the questions, with answers, that were asked during the Q&A section of the webinar. If you missed the webinar you can watch it on our website: [Becoming the National Energy System Operator \(NESO\) | ESO \(nationalgrideso.com\)](https://www.neso.co.uk/Becoming-the-National-Energy-System-Operator-(NESO)-|ESO-(nationalgrideso.com)).

How will coordination between ESO and DNOs on transmission constraints and implementation of ANM (automatic network management) be used to mitigate transmission constraints?

The coordination between us and the DNOs has grown over the last few years. ANM is an automatic monitoring piece of kit that monitors the flows of either the transmission or the distribution network. It takes automatic action post-fault to control the flows, or pre-fault in some examples. We have gone much further than this, through the regional development plans that we have been running for the last couple of years. We are the first distribution system operator in the world to have distribution energy redispatched to solve a transmission constraint. This went live earlier this year with the NGED pack in the South-west. We also have Local Constraint Management which is a new tool that we have deployed across Scotland which aims to get the distribution energy resources to play into the national market to help solve transmission constraints. We are doing a huge amount on the whole electricity system basis already and ANM is just one of the tools we have in our toolkit to work with the DNOs and the DSOs as we help utilise distribution resources to manage national and transmission related constraints on the system. We do a lot of it already but there is more to come as the DNOs properly establish the DSOs and we work very closely together.

What data and information will NESO be seeking from its stakeholders to inform the strategic planning process and function?

In the energy planning space, there is a huge amount of work and stakeholder engagement to do. Particularly for the new RESP capability where distribution networks have already made much progress in this space. The concept is that RESP does a bottom-up build from local area plans, where they exist, but also brings in work the distribution networks have been doing on plans for local areas. There is a whole new piece of work around the local area plans that we will need to bring in alongside the work we currently do in terms of our future energy scenarios (FES) with a large multitude of stakeholders. We would encourage you to engage with our current processes where you do and as we start to understand our new roles and how we will be working with stakeholders, we will be talking to you further.

Can NESO confirm the full remit of their planning responsibility?

We plan the systems and the networks, and we do the economic, environmental and community impact assessments based on the options that have been provided to us. At a transmission level, following on from the last future system network regulation report, the money and allowances then flows to the transmission owners, whether that be through a competitive process or through the incumbent transmission owners. They will

then be the one on the ground doing the detailed planning and the actual route corridor assessment. It is very important that the CSNP and the SSEP is recognised in the national planning processes, so the needs case. Why is there a need to reinforce between point A and point B? Why is that essential to meet the overall holistic story of energy transmission for GB? We want the SSEP and the CSNP to have that role so that people refer to those documents during the planning process to ensure that the network gets built. But that detailed route corridor assessment will be left to the party that is delivering the physical infrastructure.

How do you propose to engage with environmental stakeholders such as the RSPB?

We are developing our strategies and plans for engaging with stakeholders, making sure we can share the information we are developing at the right point, and we have opportunities for people to feed back to us. For the SSEP, we are talking about a broad group based on our traditional industry stakeholders, some of those environmental stakeholders and bringing in some broader societal views. We will be setting up an expert advisory group, bringing together a range of key stakeholders and underneath that having some more specific working groups. One of those will be focused on the environment and we are working through the composition of that and making sure we get the balance right between the statutory stakeholders that we must engage through the CSA and HRA processes and the approach for the non-statutory environmental stakeholders. We will also engage more broadly and make our engagement approach clear when we come out with our methodology for consultation. We will be carrying out a public consultation on the SSEP in line with the CSA requirements, so there will be activity outside the consultation but also as part of it.

How will the strategic planning process ensure that energy infrastructure is delivered in a nature positive way?

For the SSEP and CSNP, we will be building in those statutory environmental processes so the strategic environmental assessment and the plan level habitats regulation assessment. As part of that we will be looking at both the impact but also whether there is anything we can do in terms of a nature positive approach, anything we can do around biodiversity net gain and those sorts of aspects. It is being built into the process. Once we get going, we will be setting up formal engagement groups, including one specifically with environmental stakeholders, so we can get your input, test our approaches and emerging thinking and make sure you have that opportunity to influence.

How does the national strategic planning for hydrogen relate to the current support for clusters?

The industrial clusters are, in a long-term strategic perspective, probably going to be relatively small scale and are currently being designed around a vertically integrated approach. Currently there is a question about the security of the hydrogen supplies and security of hydrogen demand. There is some work to do around the security of supply of those industrial clusters and that might lead to a driver for a national hydrogen network or a core network. The economic need for a hydrogen pipeline system nationally is something that we will be studying as part of the SSEP. There are various studies that have been done to show that there may be an economic need for a hydrogen pipeline system, providing things like storage of wind covering a dunkelflaute. How they relate to each other and how we stitch them together is still work we need to identify; however, we will be looking at that strategic question within the SSEP.

What role will NESO have in determining future interconnection to Europe?

We already play a role today assessing the operational impacts through the cap and floor process that the regulator runs. Looking into the future, our market models will assess where there are benefits to interconnection but in GB, it will still very much be a

market-led approach with merchant investment driving the requirement for those interconnectors. There are huge plans within the future energy scenarios (FES) that show a huge growth in the amount of interconnection which we will be assessing, feeding into, and driving the network investments required in the SSEP and then subsequently in the CSNP. We have a role to play but it will be left to the market to determine the solution to how many and when.

What are the plans for green hydrogen?

It is very much our intent in the economic modelling we are doing as part of the SSEP to identify the best combinations of different forms of infrastructure, generation, electrolysis, blue hydrogen production etc. We will also identify the pipes and wires needed to move that around, so where the generation is and what type of generation it is. That will be an integral part of our economic modelling and will come out through the SSEP.

How will the network planning function and decisions of TOs be affected when NESO is implemented?

The network planning function of electricity transmission owners will continue to rely on NESO producing the relevant network planning documents. The imminent publication of the tCSNP2 will provide the basis for a lot of the immediate network plans. In due course, after the SSEP has been developed, we expect it to be a key input into informing future CSNPs and therefore the plans of transmission owners.

How will NESO manage the complex interplay between heating and transport energy demands and related energy networks, without a centrally coordinated energy plan?

There are a number of interdependencies through the GB economy, and they will all be impacted by the transition to a net zero economy by 2050. These interdependencies will be studied by NESO through the Future Energy Scenarios/ Pathways, which will be used to inform all parts of our network planning and system analysis activities. Whilst the core outputs of Strategic Energy Planning - the SSEP, RESP and CSNP - do not form a single 'centrally coordinated energy plan', they are being centrally coordinated, and will consider both market-based investments and energy network requirements on an internally consistent basis.

What is the timeline for publishing FES, SSEP, and CSNP guidance (from Ofgem) and methodologies (from ESO/NESO)?

FES will be published in early summer this year. We are currently working closely with government on the scope, approach and other things around what it is we are going to be delivering for the SSEP and how, and from that will come the timeline. We can't give you an answer now, but this is something we will share with you once we have clarity on that commission we get from government.

The transition towards the full CSNP will be published on March 19th. This is our next evolution of the requirements of the electricity network that allows us to meet the carbon budget and 100% zero carbon operation in 2035. This then leads us into a full CSNP, which we have penciled in for the delivery towards the back end of 2026. This will be the first time we bring together the electricity and methane gas network into a holistic network plan, by which time we will hopefully have some hydrogen and CCUS elements in there also.

How will you ensure alignment with other existing statutory planning processes, such as local plans and marine plans?

From a regional energy planning perspective, we are still in the design phase of the methodology. This is one of the questions we will need to address through this in terms of what the inputs are to RESP and how they interface with some of the statutory duties and some of the existing plans. This is a watch this space answer and please get involved with the Ofgem design work if this is a particular area of interest for you.

Our intention is that marine plans and other national spatial plans will be an input that we will take as a starting point for the SSEP. We are working through exactly how that works and which specific ones that will be, but it is our intention to use these as a starting point to build from.

Do you expect these planning proposals to be subject to statutory assessments, including HRA and SEA?

Whilst we have not yet received the full Commission from DESNZ regarding the SSEP, we do expect to produce the relevant statutory assessments including HRA and SEA.

Authorities have strategic planning roles engaging with energy systems. Without councils having national performance indicators, how will poor councils engage?

Whilst we have not yet received the full Commission from DESNZ regarding the SSEP, we do expect to produce a comprehensive stakeholder engagement programme which should enable engagement of local authorities on all matters related to the development of the energy system. Similarly for RESP, where Ofgem are currently undertaking Detailed Design, we expect to produce a relevant engagement plan in due course. In both cases, we acknowledge that for all stakeholders there will be a variety of resource availability as well as skills and knowledge.

Will the move to strategic planning impact the NESO's advocacy for Locational Marginal Pricing (LMP)?

We are convinced now that there is a need for both. You need that longer term strategic network investment to give clarity for investments, to give clarity to the network providers to build the supply chains and the capability to build the network. Having this longer-term strategic plan is critical to make sure the transition works. For it to work efficiently and in real time, and to give shorter term investment signals, then a locational market is critical. The amount of intervention we currently make into the market through the balancing mechanism to manage those constraints on the system is huge. It is only us that can see that data and therefore manage it and create the economic solutions to do so. We believe the locational pricing helps the market and will facilitate the market to solve those boundary constraint issues themselves and be much more efficient in doing so and bring more options. If you look out for the 2/3/4-year time bill for onshore wind and renewable projects or battery storage projects, then we believe locational margin signals will absolutely drive that investment also, but it must be in the broader context of the big foundations that the strategic plan will deliver.

Will NESO make decisions around infrastructure redundancy e.g., shutting down regions of the gas grid where it does not make economic sense?

From a transmission perspective our gas planning remit is that we will be producing a document that identifies the needs for the gas transmission network into the future. Part of our remit after that point we will then be assessing the options that NGT put forward to address those needs in the gas network. That will produce a document that assesses the options put forward by NGT which will then be used by Ofgem in regulatory decision making. We hope to be able to look at specific bits of the gas transmission system and see whether they continue to be needed into the future for gas transportation duties. It is

an important part of the question as to whether we can use any of these gas pipelines and repurpose them for hydrogen. It is important that we get a handle on which parts of the gas transmission network continue to be needed as we expect gas demand to decline.

From a gas distribution angle, it is expected that economic decisions on decommissioning assets, will continue to sit with Ofgem as it would today. We will be developing regional energy plans that sit across vectors. So should it be that in the future an area of a gas grid has no demand on it, you would expect to see that in the future gas distribution network plans and in the regional plans. There is also another question for RESP about granularity of plans which hasn't yet been established and what granularity is required to demonstrate what the future of a gas network is in that area. The detailed network planning is still going to sit with the distribution networks.

It won't be NESO making the decisions on these things it will be Ofgem, but Ofgem will be guided by the analysis and advice that we provide to them.

How can local authorities work with NESO to bring benefits to local areas for hosting national infrastructure projects?

As noted above, whilst we have not yet received the full Commission from DESNZ regarding the SSEP, we do expect to produce a comprehensive stakeholder engagement programme which should enable engagement of local authorities on all matters related to the development of the energy system. Similarly for RESP, where Ofgem are currently undertaking Detailed Design, we expect to produce a relevant engagement plan in due course.

How is NESO strategising to build expertise in heat networks given their expected rise in the coming decade thanks to regulation?

Understanding the impact of heat network development in a region and the impact on energy supply and demand will be important as we develop a whole system RESP capability. This will need to be part of training for RESP teams.

Which of the following planning activities that DNOs currently do will NESO pick up instead: Forecasting, Network Impact Assessment, Optioneering?

The RESP design is still being developed. However, it is already clear that the DNO's will remain responsible for their own Network Optioneering.

Will RESP be publicly available? Currently National Grid will not release Transmission Works Analysis.

The intention is to run as transparent a process in developing RESP and publishing RESP as we can. Some of this will come down to the granularity at which we will need to plan, which is yet to be decided. The intention for RESP is that they are transparent. When we are engaging and developing these plans there may be some commercial interests under NDAs for example that we can't give specifics to. The question remains on granularity of RESP 'vs' transparency that can commercially be provided. The intention is that the whole RESP process is very transparent and accessible along with the data that sits behind that.

The SSEP and CSNP will be published and there will be information being published as we go through the process as well - the commission, the methodology, the consultation and the publications at the end.

What can you share about the commissioning of the SSEP by the Government? What is the likely scope and how do NESO see it complementing the CSNP etc.?

We are working closely with government around the commission to refine, define and be clear on lots of these questions. What I would bring out around the scope and how it sits with CSNP is that the SSEP is about the energy side to a greater extent, the supply, the demand, what capacities are likely and realistic to be seen in what zone, bringing into account the environmental impact, societal impact and what can be done to minimise those. It will look at that trade-off between the location of the supply and demand, and what that means in terms of cost for networks. At a high level it will look at network needs but it won't get into the detail of specific network solutions, this is what the CSNP will pick up. The SSEP will feed into the CSNP, which will then look at those specific network solutions.

When is Day 1? When will NESO be formally established and up and running?

Day 1 for NESO is currently during the summer of 2024. Legislatively everything is in place, the challenge now is separating out of our systems. We became legally separate in 2019 so the functions that we do on the electricity system operator side are already separated and work in a different way. What we need to do with NESO is the back-office systems - the payroll, ERP systems, procurement systems. That is what is driving the critical path and the timeline, but we are focused on getting this ready to go live during the summer of 2024.

It was mentioned that strategy planning will be aligned with Government decarbonisation targets. Given many targets, which specifically, and how will you align?

We will be ensuring that the net zero target by 2050 will be met. We are working through what the interim targets are that will be built into the SSEP to get us there.

How will the new RESP role affect NESO workforce/staffing requirements?

Without clarity on the RESP design, it is difficult to fully answer this question. However, we expect to need to set up regional offices with regional staff for RESP.

How will RESP consider LAEP in the net zero infrastructure planning?

This needs to be considered as part of RESP development. LAEP's, where they exist, will be an input into RESP.

Are you engaging with the regional Net Zero Hubs?

For RESP we are in the early stages of building relationships with them. If any net-zero hubs haven't been engaged with yet, we are happy to arrange bilateral meetings.

Can you say more about how you will work with devolved administrations given they have their own national plans?

In terms of RESP, from a regional point of view we have been talking to the devolved governments. We recognise that they are further ahead than a lot of the local authorities in England in terms of how they have been developing local area energy plans and we are keen to work with them. We are wanting to learn from their experience as they have been doing those local plans and we very much see RESP as building on those plans and working with the devolved governments to understand where we add the value as we stand up RESP. One of the challenges with setting up regional energy planning is that some areas are much further ahead than others and the information available, particularly in the devolved government areas, seems to be higher than in some of the

English local authority areas. We are keen to engage and work with those devolved governments to make sure we don't duplicate anything they have done, and we build on what they have done going forwards.

In terms of SSEP, we will want to build on what is already there and make sure we are having the right conversations. There will be more information about this coming out in the commission.

Are the RESP areas now fixed and, if so, is there a map? Wondering how many RESPs there will be for Scotland?

The number of RESP areas is currently a workstream in the Ofgem detailed design.

Will the National Grid Control Centre be part of NESO as part of the System Operator function?

All of our activities, including the real time operation of the electricity system across GB, will exist in NESO and transfer over. Each of the transmission owners have their own control centers doing physical switching and safety from the system as per today. NESO is taking on the gas network development but not the real time gas system operation. Everything we do for the electricity system today we will continue to do as NESO.

Will there be a central RESP team to bring together the regional plans and if so what skills and how many people is it intended for each RESP?

It is expected that there will be a central RESP team to bring together regional plans, to identify and share best practice and to continue to improve RESP processes. At this early stage we can't say how many people would be in this team.

Will heat networks be within NESO remit?

We will need to understand the impact of heat networks in developing our regional energy plans.

ESO