ESO

Developing a system plan for clean power by 2030

Open letter to industry

This week, we are pleased to confirm that the Secretary of State for Energy Security and Net Zero formally asked the Electricity System Operator (ESO) to develop advice on how to achieve a decarbonised power system by 2030.

Operating at the heart of the energy system and transitioning this autumn to become the National Energy System Operator (NESO) with expanded whole-energy capabilities, the ESO is well positioned to take on this ambitious plan.

To undertake this programme of analysis we have established a cross-cutting delivery unit and will report back to Government by Autumn 2024.

Over the past 10 years we have reduced the amount of electricity generated from fossil fuels from 63 per cent in 2013 to just 33 per cent last year, whilst removing nearly all the coal from the system. To continue this rapid decarbonisation trajectory, will be a world-leading achievement.

We welcome the ambition set by the UK Government and look forward to contributing by undertaking this critical analysis.

How ESO will develop this plan

The plan the ESO will develop will be a whole systems spatial view of what is required to deliver a clean, secure, operable electricity system by 2030. The plan will consider possible clean energy generation mixes and their associated network, market, and operability requirements, referred to as pathways.

To create these pathways, ESO will model different energy supply and demand mixes, stress testing these against a range of scenarios, including varying weather patterns and demand peaks. The mixes currently being considered include different levels of renewable deployment, flexibility and the accelerated delivery of newer low carbon technologies (e.g. CCUS).

All pathways will meet the security of supply standard, involve efficient dispatch, and meet clean power in 2030 against a definition to be agreed with UK Government.

ESO will then use these different energy supply and demand mixes and analyse their associated networks, markets, and operability requirements. We anticipate that many of the required electricity network and energy generation types to meet the Government's 2030 target will already be in development, however, significant acceleration of the roll out of these will be required.

Therefore, ESO will be assessing what may be required to accelerate in flight generation types and network projects as well as what is required for them to do so. This analysis will also point to any potential gaps that may be required to deliver clean power by 2030.

How will this plan interact with other energy system reforms?

Our live reforms to the grid connection process, known as TMO4+, will continue to run in parallel to the development of this plan as the reforms provide the framework to reset the connections queue.

As well as bringing forward 'ready' projects as part of TMO4+, we need to ensure that the connections process enables the right energy supply mix to connect to the system in the right location, at the right time.

While the proposed grid connection reforms provide the frameworks to achieve this, further work will be undertaken with UK Government, Ofgem and industry, to define how this will work in practice.

This work will consider various factors, including how the new connections queue can best support delivery of the plan for clean power by 2030, while also providing a clear route to connect the right mix of projects beyond 2030.

This programme of analysis is focused on how Britain can achieve clean power by 2030 securely. Future energy system planning (such as the Strategic Spatial Energy Plan and subsequent Centralised Strategic Network Plan) to be undertaken by ESO will analyse what is required beyond this decade in order to plan and optimise the development of energy infrastructure up to 2050.

How will ESO engage with industry?

ESO recognises the significant opportunity that accelerating the decarbonisation of the electricity system presents to Britain.

To ensure we capture these opportunities, we will engage extensively to develop credible pathways to achieve clean power by 2030 and build a solid foundation for economy-wide decarbonisation.

This begins with gathering the insight of industry and those with wider expertise.

To do this, ESO will set up two stakeholder forums to run throughout the Autumn. The forums will have a diverse range of senior representatives invited to participate and will be aimed at both industry and societal delivery partners.

To ensure the programme can deliver at pace, some focused discussions with key industry participants, as well as our counterparts in Government and Ofgem, are already underway and will continue as required.

What are the next steps?

In the coming weeks, the ESO will set out the analytical framework for undertaking this analysis and will begin issuing invitations to our stakeholder forums.

If you have any questions in the interim, please contact box.Cleanpower2030@nationalgrideso.com for further information.

Kind regards,

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