Structure of the 2020 Electricity Ten Year Statement

Consultation

April 2020

About the ESO

On 1 April 2019, the *Electricity System Operator (ESO)* became a new legally separate entity. Our mission is to enable the transformation to a sustainable energy system and ensure the delivery of reliable affordable energy for all consumers. We are working with stakeholders across the whole energy system to plan for future requirements on the electricity networks. We use the insight we gather to make sure we can balance the system today and find opportunities to transform the way we operate the system in the future.

We have set some clear goals for 2025:

- Ensure that our electricity system that can be operated carbon free
- Develop a whole system strategy that supports net-zero by 2050
- Break down barriers to market entry so that there is competition everywhere
- The Electricity System Operator as a trusted partner

In our Forward Plan 2020-2021 we set out how we are working towards these goals.

Overview

The Electricity Ten Year Statement (ETYS), is an annual publication put together by the ESO to help inform future decisions in the UK's electricity networks. The ETYS aims to encourage innovation and inform developments that ensure a secure, sustainable and affordable energy future.

In line with our ambition to be a trusted partner, we work collaboratively with stakeholders on the ETYS – sharing our ideas and seeking feedback to inform our plans for the future. We published the latest edition of ETYS in November 2019, incorporating stakeholder feedback from the 2018 document.

The ETYS brings together information from the Seven Year Statement (SYS), the Offshore Development Information Statement (ODIS) and from 2013-2014 the Network Development Policy (NDP) analysis. From 2015, the recommendations from the Network Options Assessment (NOA) replaced the NDP results.

We are revising the structure of our 2020 Electricity Ten Year Statement (ETYS) and would like your views on our proposal.

This consultation on the proposed structure of the 2020 ETYS sets out how we think this document should evolve to better meet your needs. We will include any feedback on ETYS 2019 already given to us.

Due to the current Global uncertainty created by COVID-19 we are continually reviewing our plans, noting that priorities will have changed for the ESO and its stakeholders, and that system security and resilience remains of utmost importance. We will be prioritising the core requirements of the ETYS and we will need to reflect on any suggested changes to the 2020 document in light of the changing situation.

How can you get involved?

Your views are incredibly important to help us shape the document. We hope you find this consultation useful in letting us know your area of interest and how we can continue to make improvements to the ETYS. You can participate in the survey by clicking here which will be open until **5PM on Friday, 15 May 2020**.

Thank you in advance for your feedback.

How we improved ETYS 2019

Following the publication of the ETYS 2018, we engaged with all our stakeholders through surveys and emails on how we could improve the document and what is useful to our readers.

Listening to stakeholder feedback

Over the last few years, and in response to your feedback, we have expanded our suite of ESO publications to now include the Operability Strategy Report and the Network Options Assessment (NOA). To improve the information we give you, and to help navigation through our documents, we want to have clear focus of discussion in each document. The Operability Strategy Report presents the future operability challenges and strategy, the ETYS presents the current NETS capability and its future requirements, and the NOA presents the network development options available together with our preferred options to meet reinforcement requirements of the NETS.

This is aligned with our update on the Network Development Roadmap published in January 2020, where we made a commitment to drive greater consumer value by considering a range of solutions, from different providers, to identify the best ways to meet transmission network needs and enhance our analytical capabilities to ensure we plan the right level of investment for an increasingly complex network.

We also published the System Requirements Form (SRF) Part A publicly as a first step in our pathway to facilitate options from a broader range of participants and increase transparency in our ETYS process.

We used the feedback gathered on the 2018 publication and here were some of the improvements in the ETYS 2019:

Probabilistic Analysis

We included a section that covers the methodology in detail and describes how this approach is different to the conventional deterministic approach. This section also included a detailed case study for flows during the winter season.

This year we have initiated work on further improvements to this methodology to include other areas such as considering managing of network flows though the tapping of quadrature boosters (QBs) and many more. We will provide an update on this in ETYS 2020.

Fault Levels

We provided more information on the fault levels at minimum demand to align with European requirements.

Transmission losses

We added more information on the drivers that may impact the total volume of future transmission losses on the NETS from both fixed losses and variable (load-related) losses.

Survey

Your feedback is at the heart of improvements made to ETYS every year. This year we are asking the below questions in our survey:

Question 1: What are your views on the purpose and proposed structure of the ETYS? Do they meet your needs, and do you think they cover all the areas that should be in the ETYS?

Question 2: Are there any topics relating to the national electricity transmission system (NETS) capability requirements that you would like us to further explore?

Question 3: In ETYS 2019 we included a new Chapter 4 to provide details on our methodology and study results for our probabilistic approach. Did this chapter provide you with useful information? What are your views on how we can further develop this section?

Question 4: Do you think that our boundary transfer graphs are clear and easy to understand? How can we improve how we communicate future capability requirements?

Question 5: What are your views on the proposed ETYS appendices? Do they meet your needs, and do you think they cover all the areas that should be in the ETYS?

Structure of the 2020 ETYS

The ETYS communicates the system needs by publishing the current boundary capabilities, future requirements, and power flows on each part of the national electricity transmission system for the next 10 years. With this focus in mind, we are proposing the structure of the 2020 ETYS as follows:

Introduction

This section provides an overview of the background to the document, defines the purpose of the ETYS, and how the ETYS fits into the suite of Future of Energy documents. This section also discusses how the ETYS differs from the European Network of Transmission System Operators for Electricity (ENTSO-E) Ten Year Network Development Plan (TYNDP).

Input for the analysis

This section describes the information and data we use in our analysis. We build our analysis on the UK Future Energy Scenarios (FES) data. Using this data and the NETS Security and Quality of Supply Standard (SQSS) criteria, we produce credible generation and demand backgrounds against which to assess the capability of the NETS.

The Electricity transmission network capability and future requirements

Based on the FES and NETS SQSS, this section describes the current winter peak capability of the NETS, and what we think the projected future requirements on the system will be for the next decade and beyond. The system requirements from this chapter will be used by the NOA process to develop and recommend network development options.

We also recognise that the most challenging system needs might no longer be just at winter peak, but that other periods such as at low demand in the summer may also give rise to demanding network conditions. We will continue to develop our probabilistic analysis tools and regional planning to identify year-round thermal and voltage requirements.

At the end of chapter 4 in the 2019 ETYS, we highlighted the areas we are working on to improve the probabilistic tool to assess the year-round thermal transmission requirements. We have initiated developments to integrate pre-fault and post-fault actions such as automated QB tapping into our probabilistic tool. We intend to provide an update on this in ETYS 2020. We have also started an innovation project for developing a new voltage assessment tool as well as probabilistic voltage assessment methodologies and will be providing an update on this project in ETYS 2020.

To achieve our ESO ambition to facilitate more competition, we will evolve how we communicate and present system needs in ETYS to help provide a better understanding of these needs and increase wider participation in the ETYS/NOA process.

The Way Forward

This section provides an overview of what our annual stakeholder engagement and activity program will be, after publishing the 2020 ETYS. It will also provide information of the timeline to publish the 2021 NOA.

Appendices

Here we publish the data in line with our license requirement and use the criteria below to decide what information we should provide as appendices of the ETYS:

- we can share the information permitted in our role as System Operator,
- the information is not already available from other System Operator or network owners/operators' publications, and
- information that you have told us that is useful and valuable to you.

With the above criteria in mind, we will continue to include the following appendices in the 2020 ETYS:

- System schematics and geographic diagrams
- System technical data
- Fault level data
- Transmission losses
- We will also include further information on inputs and methodologies.