

To interested parties

Email: connections@ofgem.gov.uk

Date: 16 May 2023

Open letter on future reform to the electricity connections process

Great Britain (GB) is at a pivotal moment in its journey towards net zero. With the government's recent '*Powering up Britain*' publication promising to deliver the new nuclear, offshore wind and solar power generation essential to achieve our decarbonisation goals, there is a pressing need to ensure our energy system is equipped to enable this substantial increase in generation capacity and growing demand.¹ Ensuring these assets can connect when and where they are needed will be crucial in achieving net zero, as well as in delivering affordability for consumers and maintaining security of supply.

We need to take action **now** in order to ensure we are on track for 2035 and 2050.² Over 40% (120GW) of all new generation capacity holding transmission connection agreements today have connection dates of 2030 or beyond – with the impacts of these issues cascading down into the distribution network. This must change – but it must change intelligently, given that we also know that the total contracted capacity exceeds ESO's predicted total future generation under every scenario in 2030 and the majority in 2050.³

Many of the building blocks to address this are already coming into place. Through our RIIO regulatory price controls, we are enabling strategic investment in network infrastructure to ensure the network can be built ahead of need, and continue to work with industry to drive forward rapid improvements to connections processes which should start to bring down connection times. However, more action will be needed. There must be a **fit for the future connections regime**. This letter sets out how we, alongside government and industry, will work to reform the connections process for all parties and ensure it is responsive to customers' needs and ultimately fit for the net zero transition. This will build towards a joint

¹ [Powering Up Britain - Joint Overview \(publishing.service.gov.uk\)](https://publishing.service.gov.uk).

² References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document to refer to GEMA, the Gas and Electricity Markets Authority.

³ ESO [Future Energy Scenarios 2022 | ESO \(nationalgrideso.com\)](https://www.eso.co.uk/future-energy-scenarios-2022), figure ES.E.01 at page 155.

action plan with government later in the summer, which we intend to provide clarity on key improvements to deliver the change needed.⁴

Our objective is to see **electricity connection offers with shorter average connection dates which better meet customers' needs and enable a timely transition to net zero**. Considering the scale of the challenge, we will consider whether substantial changes to the current connections queue methodology are required and how changes are applied to both new applicants and those parties already in the queue with a connection agreement, while ensuring progress can be made quickly. This review will sit alongside existing government and industry initiatives.

We will take a **central role** in driving progress on the reform of connections. We will monitor the progress of industry initiatives to ensure these are translating into benefits for consumers, in terms of the scale and management of the queue and, crucially, earlier connection dates. We will convene industry to drive further action as and when needed. Working closely with government, we will provide the necessary leadership and ensure an industry-wide collective focus on the right issues and options, bearing in mind our objective, desired outcomes and the evolving longer-term direction.

We will carefully consider the Electricity Network Commissioner's recommendations on infrastructure and acceleration when published, align with the strategic aims from Ofgem's corporate strategy and the government's '*Powering Up Britain*' package, and continue to engage with and reflect on recommendations by the BEIS Select Committee on decarbonisation of the power sector, and the proposed Strategy and Policy Statement for energy policy.⁵

We welcome views from stakeholders on the proposals presented in this letter to connections@ofgem.gov.uk by **16 June 2023** – in particular, on:

- The nature and priority of connections issues (Section 1 – *The challenge*);
- Priority areas of focus for Ofgem (Section 4 – *What you can expect from us*);
- Our proposed objective, outcomes and guiding principles (Annex A); and,
- The illustrative reform stages and options for consideration (Annex B).

We intend to hold a webinar in June on our proposals and invite registrations of interest to the email address above. We will review and take account of stakeholder submissions, as well as the outcomes of our webinar and roundtable, as we take forward fuller analysis on

⁴ [Powering up Britain - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/powering-up-britain); [Strategy and Policy Statement for energy policy in Great Britain - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/strategy-and-policy-statement-for-energy-policy-in-great-britain)

⁵ [New Electricity Networks Commissioner appointed to help ensure home-grown energy for Britain - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/new-electricity-networks-commissioner-appointed-to-help-ensure-home-grown-energy-for-britain); [Our Strategy \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/consult/condocs/strategy/strategy.htm); [Powering up Britain - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/powering-up-britain); [Strategy and Policy Statement for energy policy in Great Britain - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/strategy-and-policy-statement-for-energy-policy-in-great-britain).

the various options and stages of reform under consideration. We will then move to make a robust assessment of key options and associated regulatory questions, to drive forward the solutions we see as essential to accomplish our net zero ambitions. Our joint action plan with government this summer will represent a key milestone in the next phase of connections reform and set the direction for future action to deliver the progress needed.

Yours faithfully,

Akshay Kaul

Interim Director of Infrastructure and Security of Supply

Overview: Review of electricity connections arrangements and future reforms

Here we set out the challenges facing the connections framework, with increasing application volumes contributing to long connection times. We also explore what may be needed to tackle the emerging issues – through strategic network investment, efficient and flexible network management and a fit for the future connections process. We set out the expected stages of reform, and our role in reviewing the electricity connections arrangements, alongside government and industry.

This document has four annexes, which provide further detail. They are as follows:

- Annex A – Proposed objective, outcomes and guiding principles for reform;
- Annex B – Illustrative reform stages and options for consideration;
- Annex C – Key dependencies and longer-term outlook; and,
- Annex D – Support for Distribution Queue Optimisation.

1. The challenge

The scale of energy system transformation as we move towards a net zero system is substantial. The system is facing growing volumes of connections at all voltage levels, with changing characteristics and a changing impact of connections.

Progress to date and emerging issues

The 'Connect and Manage'⁶ regime has enabled the rapid connection of significant amounts of renewables to the grid, accelerating generation connections which would otherwise have had to wait for transmission network upgrades. Spare capacity is becoming scarcer – congestion management costs are rising and localised 'enabling' works are increasing.

The step-change in investment in distributed energy resources has also contributed to significant congestion across parts of the distribution networks in recent years. Distribution companies have responded to these constraints by taking steps to unlock capacity and speed up connection dates – introducing non-firm connections and exploring other innovative solutions, supported by our RIIO innovation funding and the Access Significant Code Review (SCR).⁷ But generation customers still face delays, increasingly in regions of transmission congestion, alongside more localised constraints. This is the case even while

⁶ The 'Connect and Manage' regime introduced in 2010 enables generation to connect to the grid in advance of 'wider' transmission network upgrades, with the resulting congestion managed operationally through market solutions (ie balancing interventions by the ESO).

⁷ The [Access SCR - Final Decision \(ofgem.gov.uk\)](https://www.ofgem.gov.uk/access-scr-final-decision) recently introduced reforms to improve certainty and consistency of non-firm offers, while earlier work on also supported the development of novel approaches.

demand connections are now also growing across the system – a trend that is expected to continue with the electrification of industry, heat and transport.

Increasing application volumes

The crux of the challenge is the substantial increase in volume of connection applications at all voltage levels, putting greater pressure on systems and processes. Over the last five years, the volume of new connection offers provided by the Electricity System Operator (ESO) has grown tenfold,⁸ with an increase in applications of 80% in the last year alone.⁹ This has led to significant growth in the amount of new generation capacity in the transmission queue, with 280GW now holding connection agreements. This is despite the fact that the total contracted capacity exceeds (in almost every Future Energy Scenario) the ESO's predicted total generation for both 2030 and 2050.¹⁰

On the distribution network, volumes of connection applications have also increased and are increasingly impacted by transmission constraints, reinforcement works and associated delays – even if there is spare capacity locally.¹¹ This interaction requires improved coordination across the transmission-distribution interface.

Interactivity and attrition in a first-come-first-served queue

Connection applications are currently managed on a first-come-first-served (FCFS) basis, with each new connection request being considered in light of those in front of it – irrespective of a project's status or viability. In a constrained system, with long lead times to build new capacity and with over 40% of projects at transmission ultimately failing to connect (in part reflecting the excess of contracted capacity against future FES scenarios) customer applications are being significantly delayed by non-viable or slow to progress projects.¹² This creates a risk that, without swift action for all connection agreements, connection delays present an obstacle to meeting our decarbonisation goals.

Long connection times

⁸ ESO, GB Connections Reform - Case for Change, December 2022.

⁹ ESO Connections Data.

¹⁰ ESO [Future Energy Scenarios 2022 | ESO \(nationalgrideso.com\)](https://www.nationalgrideso.com/future-energy-scenarios-2022), figure ES.E.01 at page 155.

¹¹ The scale of the transmission contracted background means that increasingly distribution applications also have a potential impact on the transmission network. This interaction therefore needs to be assessed and reflected in their connection offer.

¹² National Grid ESO, [GB Connections Reform: Case for Change](https://www.nationalgrideso.com/connections-reform-case-for-change), December 2022. For new applications between 2018-2022, 42% have fallen out of the process (withdrawn, rejected or terminated).