

A landscape photograph of a valley with mountains in the background. The sky is filled with dramatic, golden-hued clouds, suggesting a sunrise or sunset. In the foreground, several bright, glowing yellow lines curve across the valley floor, creating a sense of movement and energy. The overall mood is one of transition and forward momentum.

Connections strategic change & impact to CUSC Meeting #8

19th December 2023



Introduction & ways of working

Camille Gilsenan, ESO

Agenda

Timing	Subject	Presenter
14:00 – 14:05	Introduction and Welcome	Camille Gilsenan
14:05 – 14:20	Actions Log	Alison Price
14:20 – 14:35	Transition Plan	Camille Gilsenan
14:35 – 14:50	Five Point Plan	Alison Price
14:50 – 15:10	Connections Reform	Paul Mullen
15:10 - 15:20	Next Steps Recap & AOB	Camille Gilsenan

Scope of sub-group - as agreed at CUSC Panel

Taken from ToR, the scope of the sub-group is as follows:

- Provide clarity on the horizon of strategic connection change.
- Signposting to more medium-term change such as Connections Reform.
- Focusing immediate discussion on connections five-point plan initiatives including the ESO's new policy for battery storage connections.
- Breaking down the ESO's line of thinking regards to implementation of these initiatives and addressing concerns raised by stakeholders both in terms of governance and post implementation impacts.
- Provide opportunity to deep dive on those change initiatives of interest. This will ensure the industry can understand how this change will manifest and work in practice or understand the current remit of ESO exploratory work
- Aim is therefore to help identify any CUSC code governance gaps or downstream impacts and ensure these gaps or impacts are addressed appropriately and stakeholder are engaged on this journey.

Actions

ID	Description	Owner	Notes	Update	Target Date	Status
025	Connection applications	KP	To split out applications into new and mod apps	We are looking into this. If we can split out this information, it will follow into the slides presented at the Agora and TCMF & CISG	14 Nov	CF
031	Data quality	CG	To feed back into the business, that the information to be shared as part of the network design needs to be of good quality – cited in meeting was the level of quality in the TEC register	The ESO update the TEC register twice a week. We also do an audit each month as part of the controls process. The ESO are currently investigating how we can be more transparent with connections data and provide more granular data (e.g. via better data sets and interactive mapping). This will also be addressed as part of the Connections Reform Action Plan. You can get in touch with your connections contract manager or the connections.box at transmissionconnections@nationalgrideso.com and your query will get picked up.	14 Nov	CF
032	Non-firm Markets	WKW	Update sub-group on DESNZ position regarding BESS non-firm participating in the Capacity Market and ESO position on Frequency and Stability Markets	<p>Responses are applicable for BESS non-firm/accelerating storage restrictions only. Frequency - tbc; we aim to establish an approach that will allow entry into our markets.</p> <p>Stability mid-term (Y-1) yes; customers with accelerated storage restrictions should be able to provide inertia even at 0 MW. Customers should refer to the tender rules published through the Mid Term (Y-1) Stability market web page for certainty.</p> <p>Capacity Markets: this is still being checked with DESNZ;</p>	14 Nov	CF
033	DNO firm not being treated as 100% firm – not clear what this means for frequency markets	CG	Take back to ESO Frequency Response team for awareness that there are many questions that sit with the ESO frequency response team that they may need to be aware of – such as the recent UKPN update on DNO non-firm	ESO have fed back to relevant FR teams within ESO. See action 38.	14 Nov	CF

Actions

ID	Description	Owner	Notes	Update	Target Date	Status
036	TEC register	KP	When queue will form part of TEC register and the definitive position of why ESO cannot share queue positioning		19 Dec	CF
037	Demand Register	KP	Advise if the ESO is looking to create a Demand register	Work is ongoing to create a Demand register as there is industry appetite for this information. However, it is likely to require a code change to enable the publication of this data.	19 Dec	New

Actions

ID	Description	Owner	Notes	Update	Target Date	Status
038	Services for firm & non-firm	CG	To confirm which services, firm and non-firm parties can participate in	<p>Currently, parties can participate in any reserve and response market depending on whether they can meet the service terms of the product and the prequalification process (however, if you're part of an ANM, as part of your DNO connection agreement, the ESO will need to further consider this on a case-by-case basis).</p> <p>Firm and non-firm parties can participate in the ongoing Voltage 2026 tender event and the Mid-Term (Y-1) Stability Market. Service providers will need to ensure/understand how their connection arrangement can meet the 90% availability criteria specifically. Generally, parties will need to meet all the service terms and the tender requirements/criteria.</p> <p>MW Dispatch is a paid turn down to 0 MW Service so should be available to non-firm connections, if an embedded generator has SSC 4 we are expecting that they should sign up. If the generator is not generating at the time, we ask others at the GSP to reduce to zero as they are held off by another system constraint (non-firm). They are not paid at that time as didn't provide a service on that occasion.</p> <p>As non-firm connection increases, and the impact of non-firm providers on the availability of the service can be assessed, the ESO may need to review this position, including the service terms.</p>	19 Dec	New
039	TEC amnesty	KP	Confirm the impact of TEC amnesty – how much given up, can be reused/brought forward	Connections will look to do a summary following closure of TEC Amnesty in Q4 of 2024.	19 Dec	New

Actions

ID	Description	Owner	Notes	Update	Target Date	Status
040	Queue Management	KP	Diarise these meetings before Christmas	Link to QM webinars emailed to CISG attendees 27/11. Link can also be found here	19 Dec	New
041	CISG sub-group meetings	CG	Share transition plan to close sub-group	Slide is in pack for discussion at meeting,	19 Dec	New
042	Update on Authority decision date CMP298	AP	Update sub-group if decision delayed	Ofgem published an expected publication dates timetable 8 th December; CMP298 had an EDD of 12 th December.	19 Dec	New
043	CMP298 Implementation Group	AP	Catch up with Paul Mott to discuss what the state of play is with the CMP298 Implementation group. Additional question received post subgroup mtg: Is CMP298 approval required in order for 'Planning Limits' (AKA Technical Limits) at GSPs being implemented	(1) Due to the continued extension of the decision date for CMP298 and the priority transmission and distribution initiatives in flight, reconvening the CMP298 implementation group wasn't seen as a necessity in the implementation of CMP298. ESO has continued to prepare themselves to implement the code mod, and are prepared for a decision from Ofgem at the latest EDD of 12th December. (2) GSP technical limits has been developed as part of an ENA Strategic Connections Group and does not form part of CMP298, therefore does not need the code mod to be approved in order for this to be implementation. Please see ENA 3PP for more information on this piece of work.	19 Dec	New

Actions

ID	Description	Owner	Notes	Update	Target Date	Status
044	Two-step offer process	KP	<p>Does the ESO see any issues that post March 2024, there will be offers which contain differing CPA's for Users</p> <p>Additional comment received post sub-group - How will ESO manage the use of two different CPA methodologies for users post March 2024. New offers (including Mod Apps) post March 2023 will use the new CPA methodology but offers issued pre-March 2023 will use the old methodology</p>	<p>The aim of the CPA assumption and subsequent TWR review was to update customers agreements as and where it was possible to do so. Therefore, as part of this review every customer that had a signed agreement, was included in the background and also expressed an interest (EOI), have as part of this had their connection studied (in England and Wales, Scotland is still ongoing) and in the near future will be notified if they can have a date acceleration to their project. The CPA is a live process that will continue to evolve as customers get added and others fall away.</p>	19 Dec	New

Additional questions received

Question received prior to meeting	Response
Should non-firm connections pay less TNUoS because they have a less secure connection to the transmission network?	As this question relates to Charging and challenging the status-quo, TCMF is best placed for this question to be raised.
Communication to industry/implementation plan of the LIFO method and the management of the LIFO stack by the Control Room	5 point plan (5) Non-firm offer development will mimic the industry standard LIFO method when managing non firm offers. The detail of this will be worked out and communicated with industry when the notification process is developed.

Transition Plan - Topics

Topic	Visibility	Signposting
Connections Applications	<ol style="list-style-type: none"> 1) Monthly TCMF & CISG meeting 2) Monthly Connections Agora 	We can add you to the distribution list for these meetings otherwise sign-up details for meetings and outputs of meetings can be found here and here .
5 point plan (1) TEC amnesty	Closing down – updates will no longer be provided	
5 point plan (2) & (3) CPA review & Treatment of Storage	<ol style="list-style-type: none"> 1) Monthly Connections Agora 2) Connections Newsletters 	Sign up to the Connections newsletter here
5 point plan (4) Queue Management	<ol style="list-style-type: none"> 1) Queue Management webinars 2) Connections Newsletters 	<p>Any questions you have can be directed to your Connections Contract Manager in the first instance or you can email the Connections mailbox: transmissionconnections@nationalgrideso.com</p> <p>For publicly available information, click here</p>
5 point plan (5) Non-firm offer development	<ol style="list-style-type: none"> 1) Monthly Connections Agora 2) Connections Newsletters 	If you are part of the roll-out, please direct any questions you have to your Connections Contract Manager. If you are not part of the roll-out, please raise any questions at the agora.
Connections Reform	<ol style="list-style-type: none"> 1) Monthly TCMF & CISG meeting 2) Monthly Connections Agora 3) Connections Process Advisory Group 4) Connections Newsletters 5) Possible targeted stakeholder workshops to help finalise position on outstanding issues 	<p>For specific queries- box.connectionsreform@nationalgrideso.com</p> <p>For publicly available information, click here</p>

Transition Plan

Topic	Visibility	Signposting
New modifications	<ol style="list-style-type: none">1) Monthly TCMF & CISG meeting2) CUSC panel	<p>We will continue to discuss new ESO modifications at TCMF & CISG prior to taking mod to CUSC panel.</p> <p>Comments on modifications can continue to be sent to ESO Code Governance team: code.administrator@nationalgrideso.com</p>

5 Point Plan

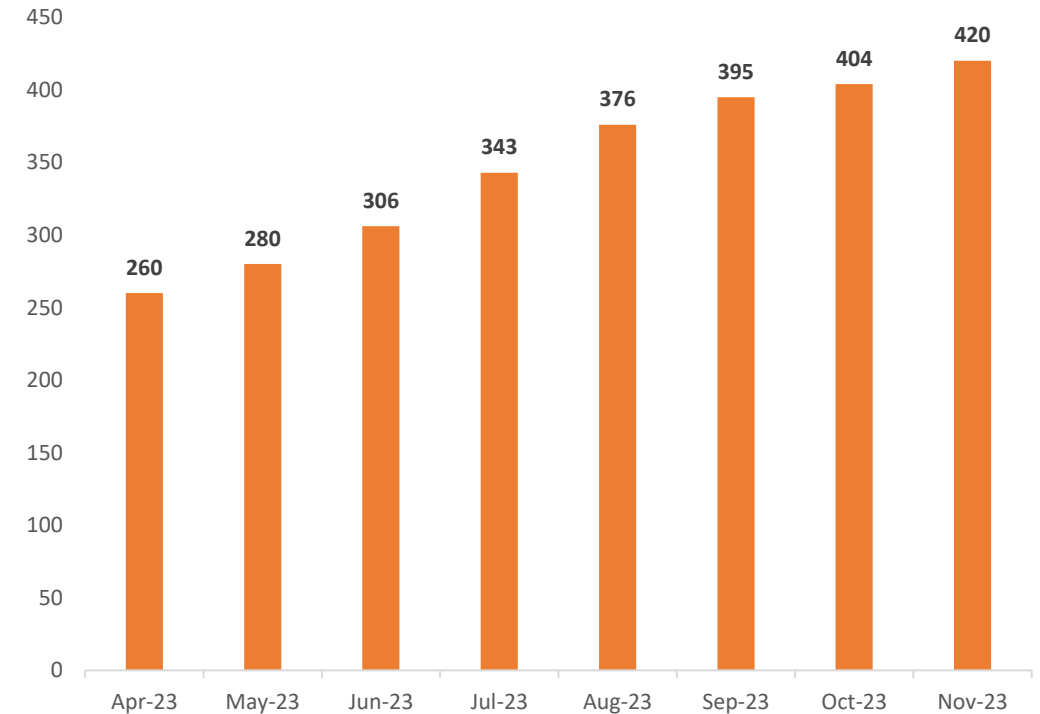
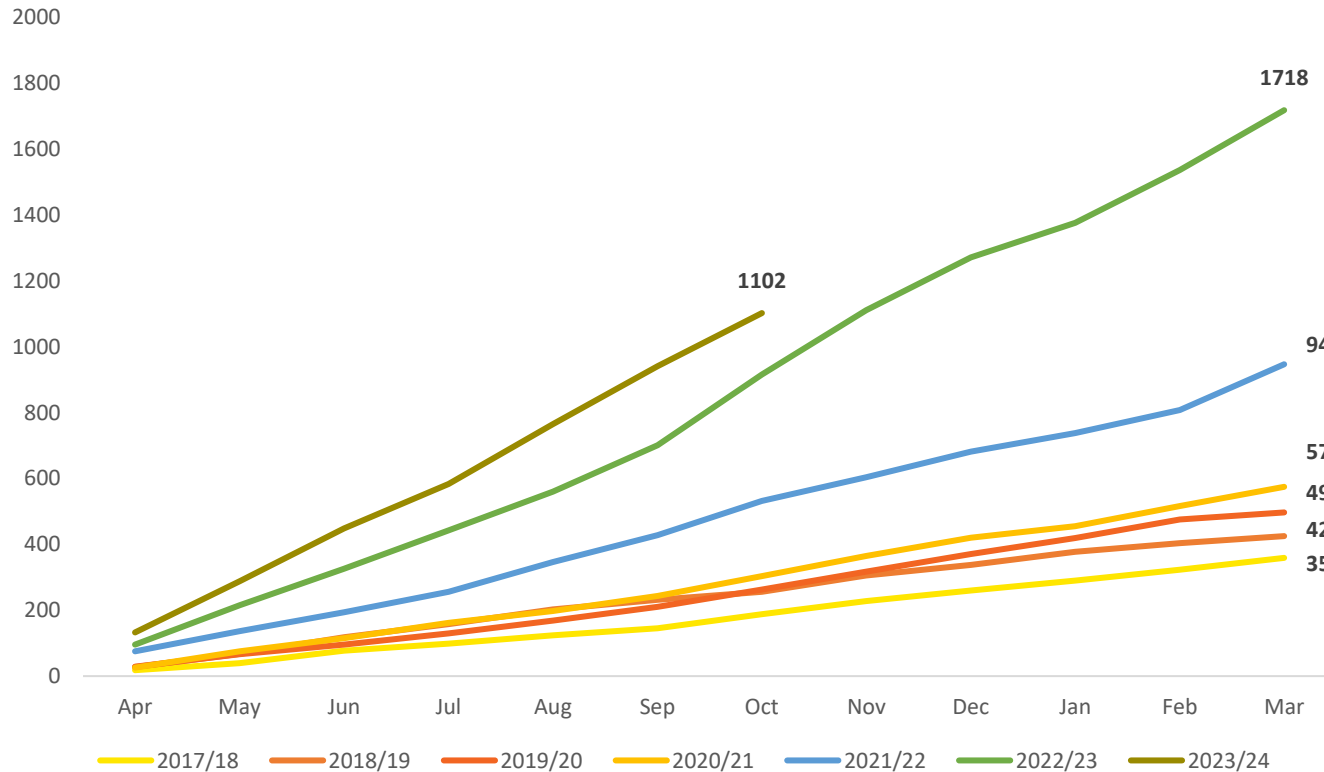


Connection Applications

The number of licenced connection applications has increased over the last 5 years, with a marked increase over the last 2 years. This increase is driven mainly by new Offshore Wind and Battery Energy Storage applications.

The increase in applications has in turn increased the contracted background and connection queue to **420GW**, which is an increase of **160GW** in the last 8 months (transmission only).

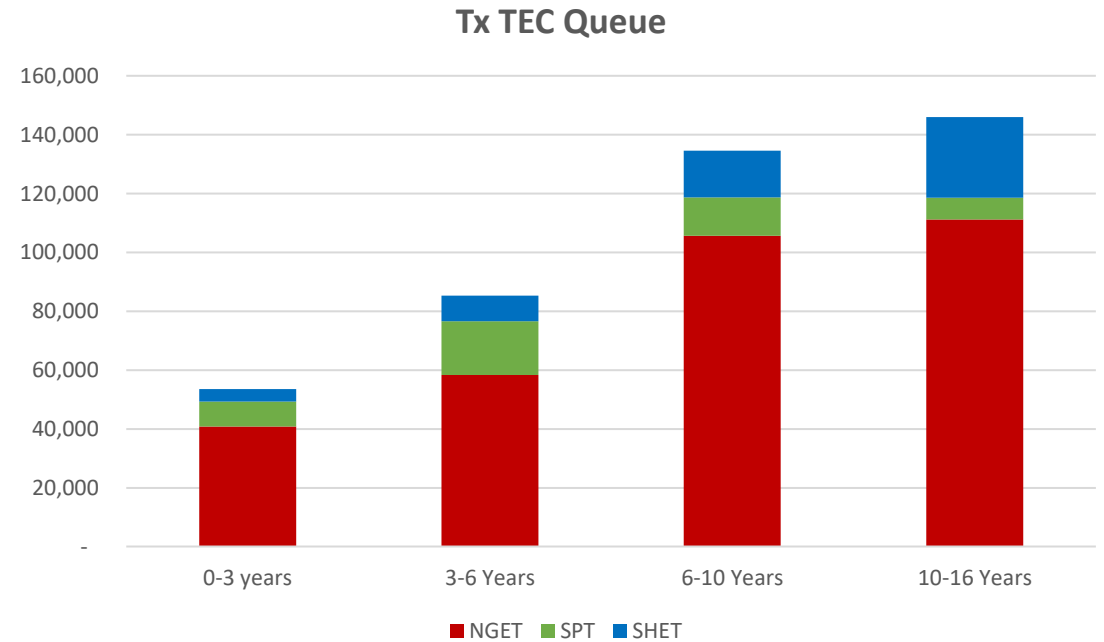
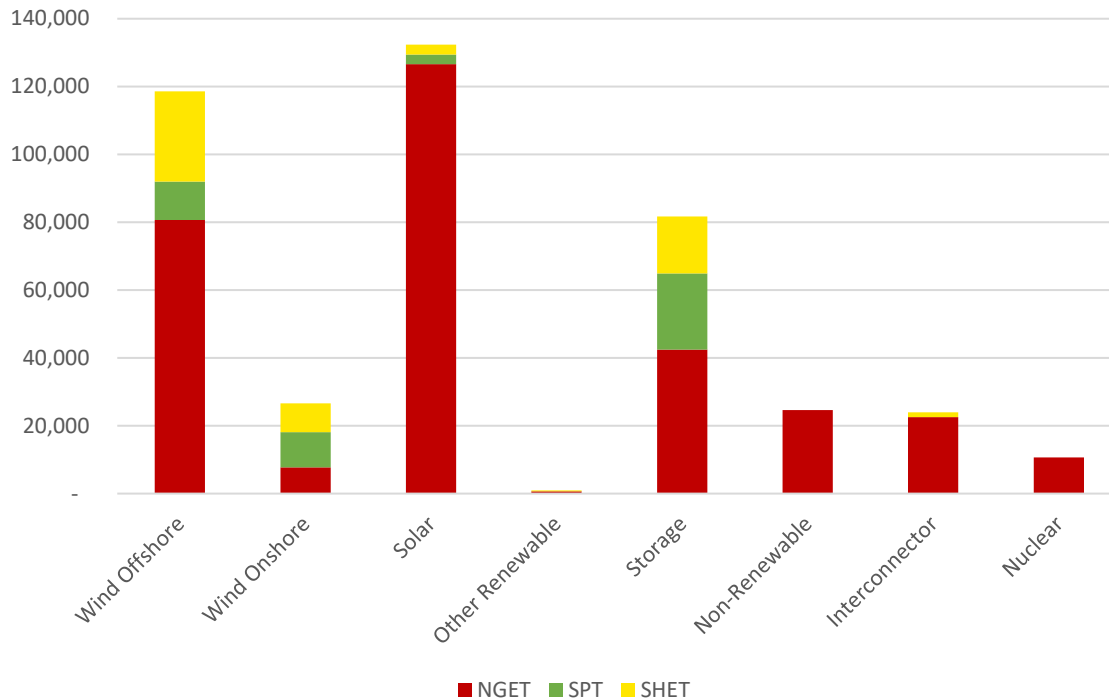
Licensed Applications Received



Connections Queue

The contracted background is still growing, with more applications offsetting a falling acceptance rate.

Circa **420GW** of generation projects are currently seeking to connect to the electricity transmission system, yet our data shows that up to **70%** of those projects may never be built. There is **142GW** currently in the distribution queue.



Our 5 Point Plan

Our 5-Point Plan is a set of Tactical Initiatives ahead of the wider connections reform

1. ~~TEC Amnesty~~

2. Construction Planning Assumptions Review

3. Treatment of Storage

4. Queue Management

5. Non-firm Offer Development



CPA Review and Treatment of Storage

Construction Planning Assumptions Review (CPA)

We are changing the assumptions that most projects in the queue will connect to reflect a 30-40% connection rate

Treatment of Storage (BESS)

We are revising the way storage connections are modelled using insight resulting of a better understanding of its behavior. These changes will allow storage to connect quicker and support unlocking more capacity to connect others.

Transmission Works Review (TWR)

Together the above changes are being reflected in the Transmission works review where we hope to improve connection dates and reduce works.

In England and Wales the two step offer process has been introduced to allow the TWR to be completed alongside the usual connections process

The existing connections process is still in operation in Scotland.



Queue Management

- There is currently no mechanism in the CUSC to terminate projects that are not progressing.
- CMP 376 is the CUSC Mod which would give the ESO powers to terminate agreements that are not progressing
- Final work group report was submitted to Ofgem on the 7th June
- Currently developing a substantial guidance document and working with TO's on implementation
- CMP 376 was approved on the 13th November



Non-firm Offer Development

Context

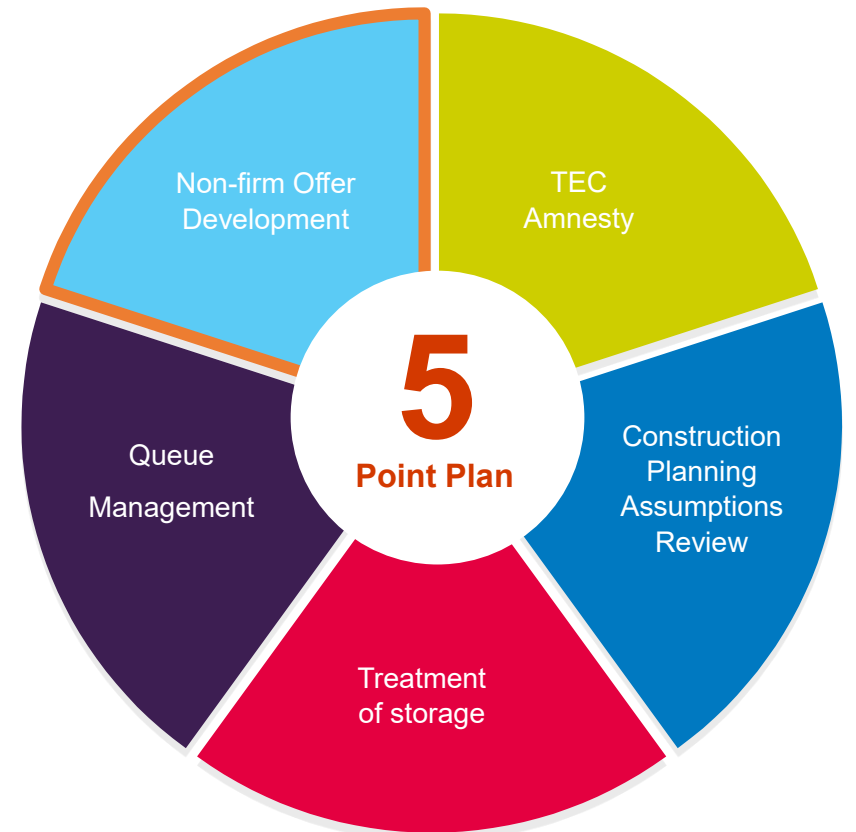
We published an [update](#) in June. It allows storage to connect once certain non essential enabling works are completed on a non-firm (customer choice) basis.

What has happened since then

We have been working with the TOs and the DNOs (through the ENA's Strategic Connections Group) to develop the detail that underpins the policy. In addition we have analysed our [EOI](#) to understand the appetite for an accelerated non firm connection date for storage.

Update

We will imminently launch tranche 1 for E&W . This will be for ~20 customers (~10GW) and will include Queue Management milestones
Tranche 2 (E & W) to be worked up from March onwards.
Dates to roll out the initiative for Scottish storage sites are still under discussion and are dependent on us finalising the policy
Small and medium distribution connected sites are being progressed together with ENA Strategic Connections Group



Connections Roadmap - the next 6 months...



Connections Reform



Connections Reform – Final Recommendations published

Summary of our Final Recommendations - <https://www.nationalgrideso.com/document/298491/download>

Final Recommendations - <https://www.nationalgrideso.com/industry-information/connections/connections-reform#Key-documents>

The screenshot shows the ESO website interface. At the top, there is a navigation bar with the ESO logo and a search field. Below the navigation bar, there are several menu items: 'What we do', 'Electricity explained', 'Future energy', 'Industry information', 'News and events', and 'Research and publications'. The main content area is titled 'Connections Reform' and includes a sub-header 'December 2023 Final Recommendations'. A list of documents is displayed under this sub-header, including 'Connections Reform - Final Recommendations Report - Dec 23', 'Connections Reform - Final Recommendations Summary - Dec 23', and several annexes (Annex 1-5).

Home / Industry information / Connections / Connections Reform

Queue management >

Our five point plan >

Connections Reform >

Two-Step offer process >

Connections Portal >

Help and support >

Our role in connections >

Reports and registers >

The connections offer process >

Customer Connection events >

Your connections journey >

Compliance Process >

Search

What we do Electricity explained Future energy Industry information News and events Research and publications

Overview **Key documents** Phase 2 – Solution design Phase 1 – Case for change

December 2023 Final Recommendations

December 2023 Final Recommendations >

Publications >

Governance groups >

Webinars and events >

Name

Connections Reform - Final Recommendations Report - Dec 23

Connections Reform - Final Recommendations Summary - Dec 23

Annex 1 - Consultation Question Response Summaries

Annex 2 - Target Model Option (TMO) 4 Process Overview

Annex 3 - Revised Design Criteria Assessment

Annex 4 - Gate 2 Options

Annex 5 - Connections Process Advisory Group Terms of Reference (draft)

In person event held 12 December and webinar 14 December to explain final recommendations

Our proposed implementation strategy and timeline

Aiming for go live by 1 January 2025

Key aspects of reformed process to be developed on an expedited basis as part of the Minimum Viable Product

Based on progressing necessary code modification under the urgency criteria

View to submitting these modifications in April 2024 for approval by Ofgem in mid to late 2024

IMPLEMENTATION PLAN	2023			2024					2025										
	Q4			Q1			Q2		Q3		Q4		Q1						
TASK	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	
GOVERNANCE																			
Final reform recommendations published																			
PHASE 3 Mobilised																			
Expected decision on additional changes to be made																			
Connections Delivery Board																			
Connections Process Advisory Group																			
Communications strategy																			
PRE 'GO-LIVE' CHANGES																			
Letter of Authority - base-level implemented*																			
Pre-Application - enhanced industry information on ESO website							Part 1			Part 2									
Online portal pre-Application stage functionality																			
REFORMED PROCESS - MVP																			
Process mapping and detailed design of end-to-end process																			
Network design methodology																			
Licence change - Ofgem-led																			
Urgent Code Changes - CUSC, STC, STCP (GC & DCUSA tbc)																			
Identify changes required, draft changes through CPAG																			
Raise code changes at Panel																			
Code Change Process																			
IT and systems																			
Data and processes																			
Develop secondary processes																			
People - Recruit additional staff (ESO, TOs, DNOs)																			
People - Training for ESO, TO, DNO staff																			
Industry guidance (pre-launch, then annual review)																			
Internal guidance, SOPs and training																			
REFORMS GO-LIVE																			
Publish guidance																			
Release portal functionality																			
Stakeholder events																			
Launch communications																			
REFORMS LIVE - WINDOW 1 OPENS																			
<i>Note:</i>																			
<i>* An enhanced Letter of Authority will also be included within proposed code changes</i>																			
<i>The "Non-MVP" reformed process changes timetable is to be confirmed</i>																			

Governance

We will create a new Connections Process Advisory Group from January 2024

- to enable industry to steer detailed process design and code modifications within parameters in final recommendations
- independent chair
- fortnightly meetings
- will report into new Connections Delivery Board

Connections Delivery Board will:

- provide strategic direction on changes to the connections process; and
- hold organisations to account for timely and coordinated delivery of these changes



Next Steps

Implementation phase starting from January 2024.



Email us

Box.connectionsreform@nationalgrideso.com

Next steps

- Focus topic for next meeting
- Proposed date of next meeting is 23. January
- AOB

Long Term Actions – to be passed on to BESS non-firm project team

ID	Description	Owner	Action	Update
007	Non-firm – Curtailment information	WK/DR	What information will the rest of market have on the quantum of curtailment behind T boundaries, both ahead of time and real time?	24/10/23 - The detailed process for notifying storage has not been developed yet and will be developed ahead of the first storage providers connecting under this initiative ~2026
008	Non-firm – Curtailment times	WK/DR	How long is the curtailment to be active– in market timeframes for the products being used by the ESO, such as settlement period(s) in BM?	24/10/23 - The detailed process for notifying storage has not been developed yet and will be developed ahead of the first storage providers connecting under this initiative ~2026
012	Non-firm and TNUoS task force	CG	TNUoS taskforce have non-firm as out of scope however the ESO is trying to encourage it. Reach out to TNUoS taskforce to discuss why it may not be in their scope of work	ESO has discussed this briefly with OFGEM and it's been raised at TNUoS taskforce. More thought needed on this before the appropriate forum for discussion is confirmed.
028	Constraint notifications	WKW/A Q	Review feedback received on constraint notifications from subgroup as a consideration throughout the development of the BESS non-firm product	The ESO has heard the concerns about notifications and this will be factored into the development of the notification process. See action 7.
029	Constraint notifications	CG	ESO to clarify what constraint data they publish in real time	Agreed at sub-group 14/11 to categorise this as a long-term action as it needs to be picked up by the project team once in-situ

