Connections strategic change & impact to CUSC

Meeting #3

26th September 2023

ESO

Agenda

Timing	Subject	Presenter
10:00-10:05	Introduction and Welcome	Camille Gilsenan
10:05-10:15	Actions Log	Secretariat
10:15–10:45	Non-firm product update	Djaved Rostom, Will Kirk-Wilson
10:45-11:15	Five Point Plan	Laura Henry
11:15-11:25	Connections Reform	Paul Mullen
11:25-11:30	Terms of Reference	Joseph Henry
11:30-11:40	Next Steps Recap	Secretariat
11:40-11:50	AOB	Camille Gilsenan

Introduction & ways of working

Camille Gilsenan, ESO

Outstanding Actions

ID	Description	Owner	Notes	Target Date	Status
003	Queue Management – uploading evidence	LH	Giving stakeholders sight of the guidance document post Authority decision and before publication [wording was updated to reflect discussion at WG2]	05/09/23	C/F
004	Non-firm updates	WK/DR	Update sub-group as non-firm solution develops	05/09/23	C/F
005	Non-firm and Capacity Market	WK/DR	Speak to DESNZ to confirm that they are aware that the non-firm initiative restricts Users from participating in the CM	05/09/23	C/F
006	Non-firm and Capacity Market	WK/DR	ESO to consider if they need to do more to make it clear that a move to a non-firm product restricts operability in some markets, such as the Capacity Market	05/09/23	C/F
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?	05/09/23	C/F
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?	05/09/23	C/F
009	Non-firm – Curtailment queue	WK/DR	As curtailment is to be in reverse queue order (as Djaved indicated) will users have visibility of their place in the queue, relative to other users signed up to this option, in order for them to understand the probability of curtailment?	05/09/23	C/F

Outstanding Actions

ID	Description	Owner	Notes	Target Date	Status
010	Non-firm - process	WK/DR	As more non-firm is connected on the network, how is it decided which gets turned off first? What is the process? How transparent will this be? For example, if there are two non-firm connections at one node – will both be restricted to 50%? Or only one asset 100% restricted? (Is it all or nothing? Or can there be partial?) etc. This needs to be completely transparent. Additional information added post mtg by LH: Will you rotate sites, scale or something else?	05/09/23	C/F
011	Non-firm - Process	WK/DR	How is this activity accounted for beside balancing actions – what conditions would the ESO be allowed to instruct non-firm to turn down/off, or when should they take a bid/offer from another asset at the same node – national energy balancing vs. locational system impacts. How are the local impacts defined/calculated? And is it only on an energy basis, or are other system products like Short Circuit Level and Reactive power also restricted?	05/09/23	C/F
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	05/09/23	C/F
013	Late question – received post meeting from LW: Curtailment - interruptions	WK/DR	On sign-up, a User may agree to be interrupted x times per year. Should more sites subsequently connect, can NGESO increase the triggers that interrupt me?	05/09/23	C/F

Outstanding Actions

ID	Description	Owner	Notes	Target Date	Status
014	TEC Amnesty	LH	Confirm the actual TEC amnesty figure achieved against the published expected 8.1GW	26/09/23	NEW
015	Amend draft Terms of Reference	JH	Update ToR to reflect the discussion in WG that we capture the consideration of liaison with the ENA and DNOs to reflect an increase in whole system conversations being needed	26/09/23	NEW
016	Storage Contracted Generation	LH	To review if how we capture Storage Contract Generation needs to be broken down to reflect Storage duration timeframes	26/09/23	NEW
017	Storage Contracted Generation	LH	Should the Connections queue for Storage show contracted and non-firm position?	26/09/23	NEW
018	Storage modelling	WK/DR	To confirm if Storage being modelled at 0MW for studies is regardless of whether they are firm/non-firm	26/09/23	NEW

Outstanding Actions

ID	Description	Owner	Notes	Target Date	Status
019	Additional non-firm consideration in product design	WK/DR	-Contractual certainty, to the User, around the very rare occasions when intact system conditions apply (including details of exactly what local constraint(s) will / will not be relevant to them) such that they will be clear about the probability of uncompensated curtailment (if they sign up to this new approach); -Consistency of the application of this contractually by the ESO to all relevant Users; and -Transparency to all market participants of the volume to be curtailed, uncompensated / out of merit, by local constraint(s), as well as (real time) when the volume has been so curtailed by the ESO Point of consideration: - whilst the 3 points are relevant as we discuss non-firm product for BESS, they are also applicable to other customers that are seeking to connect as non-firm in the future	26/09/23	NEW
020	Storage modelling	WK/DR	Confirm if Storage 0MW treatment was for network planning or T&T Model	26/09/23	NEW
021	Non-firm and stacking	WK/DR	Reach out to Scottish and Southern to see how they operate non-firm in their region	26/09/23	NEW

BESS Non Firm product - update

Will Kirk-Wilson & Djaved Rostrom, ESO

5 Point plan update: Interim offer for BESS

Context

- ESO outlined our Accelerating Energy Storage Connections policy in June
- This accelerates the connection of energy storage projects by removing the need for non-critical enabling works to be complete before storage connect under a non-firm arrangement.
- In addition, we published an EOI asking for views from customers about whether there was interest in a non-firm connection offer, particularly for storage. This closed in May.

What has happened since then?

- We have been working with the:
  - Transmission Network Owners to turn the high-level policy statement into a deliverable policy that we can offer to customers.
  - Distributed Network Owners through the Electricity Network Association's Strategic Connections Group to understand how the high level policy statement can be rolled out to distributed connection storage
- In addition we have been working through the EOI, to understand the appetite from storage for an accelerated non firm connection date.

5 Point plan update: Interim offer for BESS

Update

- The details underpinning the policy is not completely finalised and questions are still outstanding. However we thought we would give an update about where we have got to.
- Importantly this is customer choice. It is for connectees to decide if the offer meets their needs. This policy will not be imposed.
- Our intention is to launch the product with an initial tranche before potentially rolling out wider.
- We still not have identified any CUSC impact. Effectively this is rolling out the existing Scottish Power RAA arrangements wider. A significant difference being that RAA is managed through an ANM, this will be managed ahead of real time.

5 Point plan update: Interim offer for BESS

Update cont.

- NGET Tranche 1 is for:
  - ~20 customers (~10GW) of transmission connected BESS in E&W.
  - Sites were determined by NGET according to suitability based on the following criteria:
    - Storage only (ie no hybrid),
    - Declared an interest in the EOI for an accelerated non-firm connection,
    - Simple sites for acceleration (ie no new substation build or where a wider site strategy is needed),
    - No detrimental impact on existing customers.
- Tranche 1 sites have been contacted. These sites will receive their offer in the next month or so.
- Tranche 1 sites will have 3 months to sign their offer. In that time they will need to assess the risk of curtailment associated with their connection. The ESO will provide supporting network data, but ultimately it is for the customer to determine if the connection offer is right for them.
- The offer will highlight the network conditions and potential circuit overloads where the connectee can be pulled back. This will not stop them supporting network conditions, ie if it is an export constraint, import will still be permissible.
- Subsequent tranches will pick up sites that have not been contacted (see next slide).

5 Point plan update: Interim offer for BESS

Update cont.

- Tranche 1 is for E&W **transmission**. Dates to roll the initiative out to Scottish storage sites is being discussed. This is because, while we are working together with all three TOs to develop the policy, NGET have chosen to accelerate the connection of tranche 1 storage sites.
- E&W tranche 2 sites will start to be worked up in the next few months.

- **Distribution** connected sites are being progressed together with the ENA Strategic Connections Group. They have their own three point plan that accelerates customer connections. Point 2 of their plan is looking at changing how transmission and distribution coordinate connections.
- The distributed EOI data has been shared with the DNOs. Of the ~450 E&W distributed sites that expressed an interest in an accelerated non-firm connection, ~300 of the sites are covered by the technical limits phases 1A, 1B and 2. Subsequent sites are expected to be impacted as the technical limits work is rolled out wider.
- The technical limits work accelerates all technologies, which includes storage.
- The ENA is running a webinar week Thu (28th) to give an update on progress on the technical limits work.

- Lastly, we will be giving an update at the customer seminar on 16th October.

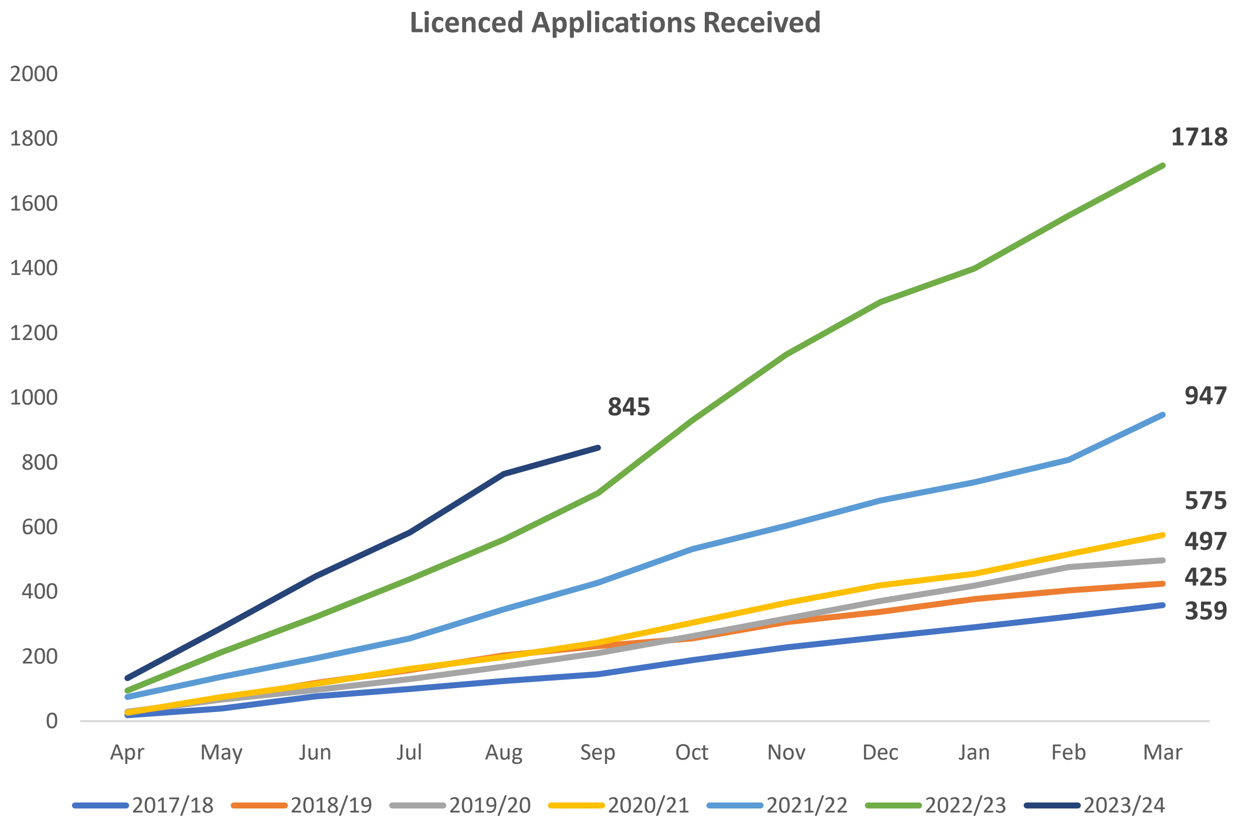
5 Point Plan

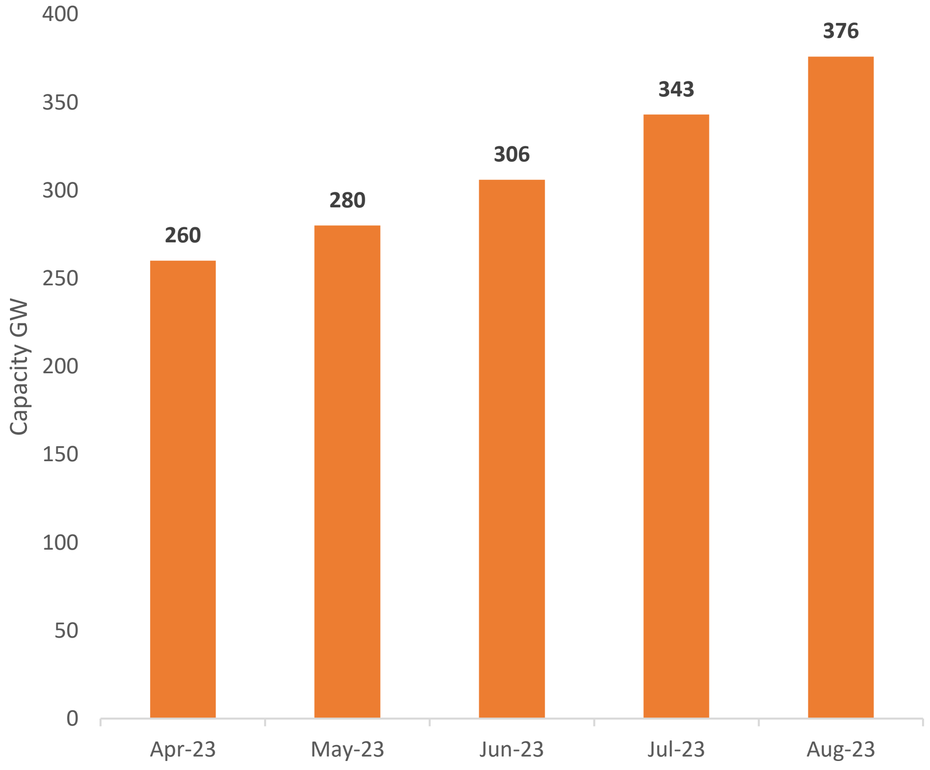
Laura Henry, ESO

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 395GW, which is an increase of over 100GW in the last 5 months.



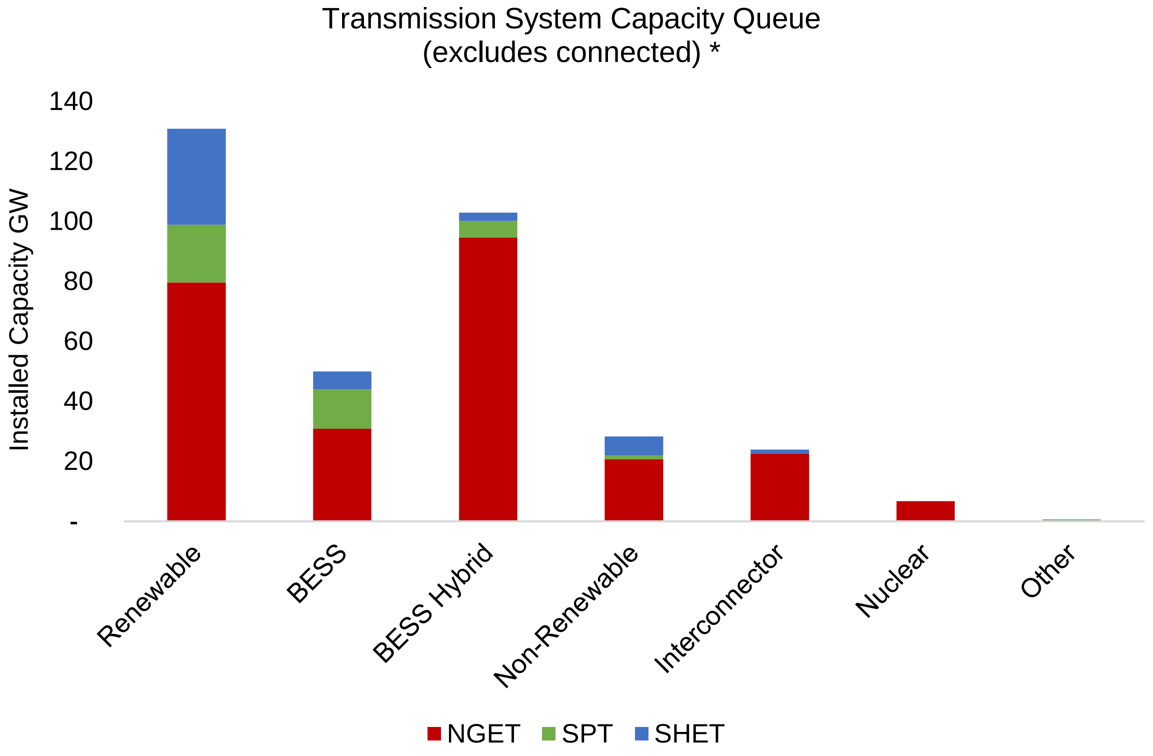


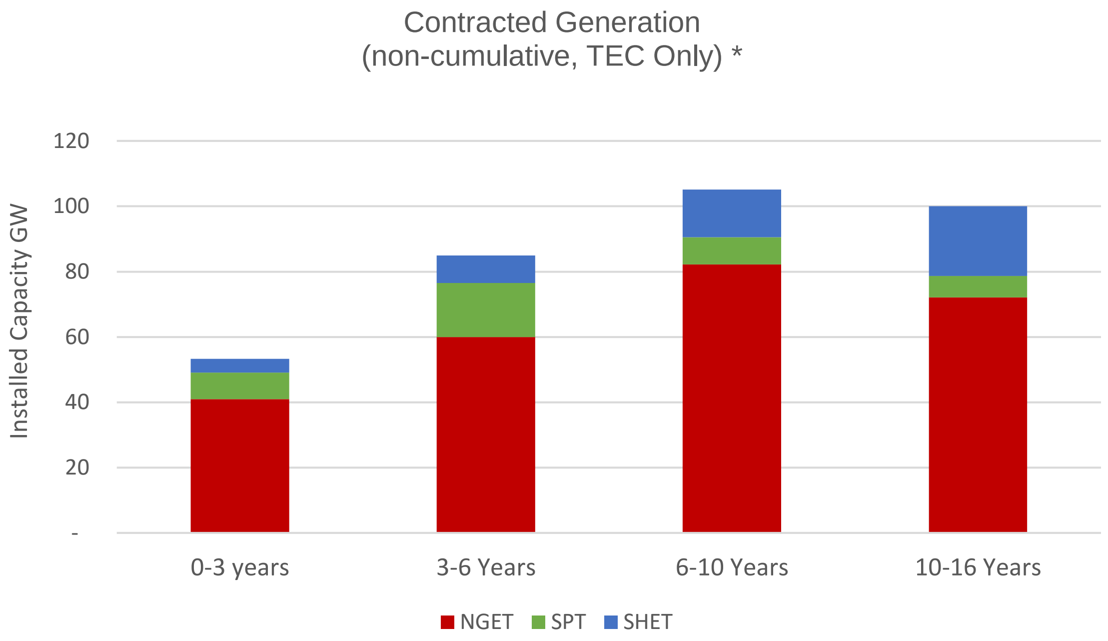
*transmission connected capacity only – excludes 83GW of connected capacity

Connections Queue

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

Over **395GW** 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. **113GW** currently in the distribution queue.





*Data from TEC Register on 31/05/23

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

TEC Amnesty

- First TEC Amnesty since 2013
- We received a total of 8.1GW of applications
- Ofgem published a letter of comfort on 15th August confirming that the costs could be re-couped through TNUoS
- Final Step- ensure customers still want to be a part of the amnesty
- 1.8GW has dropped out
- Starting to Terminate agreements for those that have confirmed

CPA Review and Treatment of Storage

Construction Planning Assumptions Review

We are reducing the assumptions in relation to how many projects in the queue will connect from 100% to 30-40%

Treatment of Storage

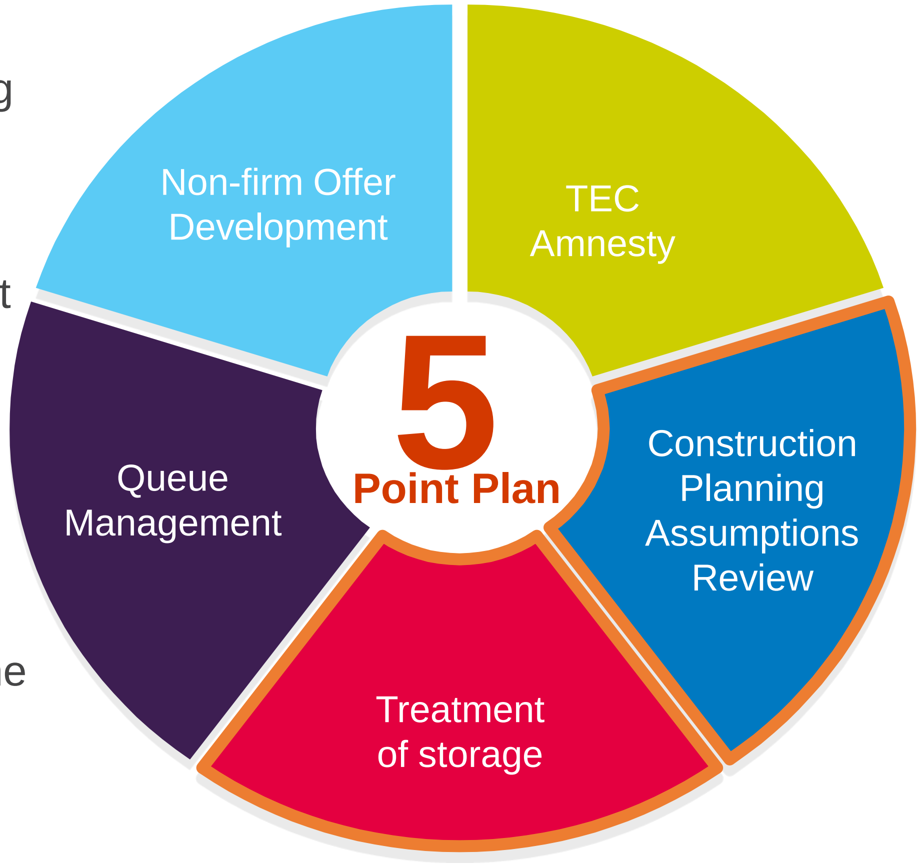
We are revising the way storage connections are modelled using insight resulting of a better understating of its behavior. The storage projects are dispatched to 0MW because that's typically the output of the modelling for those samples but there have been CPAs where some storage projects were dispatched to a non-zero value. These changes will allow storage to connect quicker and support unlocking more capacity to connect others.

Transmission works review

Together the above make the Transmission works review where we hope to be able to reduce 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.
- CMP376 is the CUSC Mod which would give the ESO powers to terminate agreements that are not progressing
- Final Modification report was submitted to Ofgem on the 7th June
- Awaiting Ofgem's decision- 15th September
- Currently developing a substantial guidance document and working with TO's on implementation

Non-firm Offer Development

Context

We launched our non-firm policy in June. It allows storage to connect once enable working are completed on a non firm (customer choice) basis.

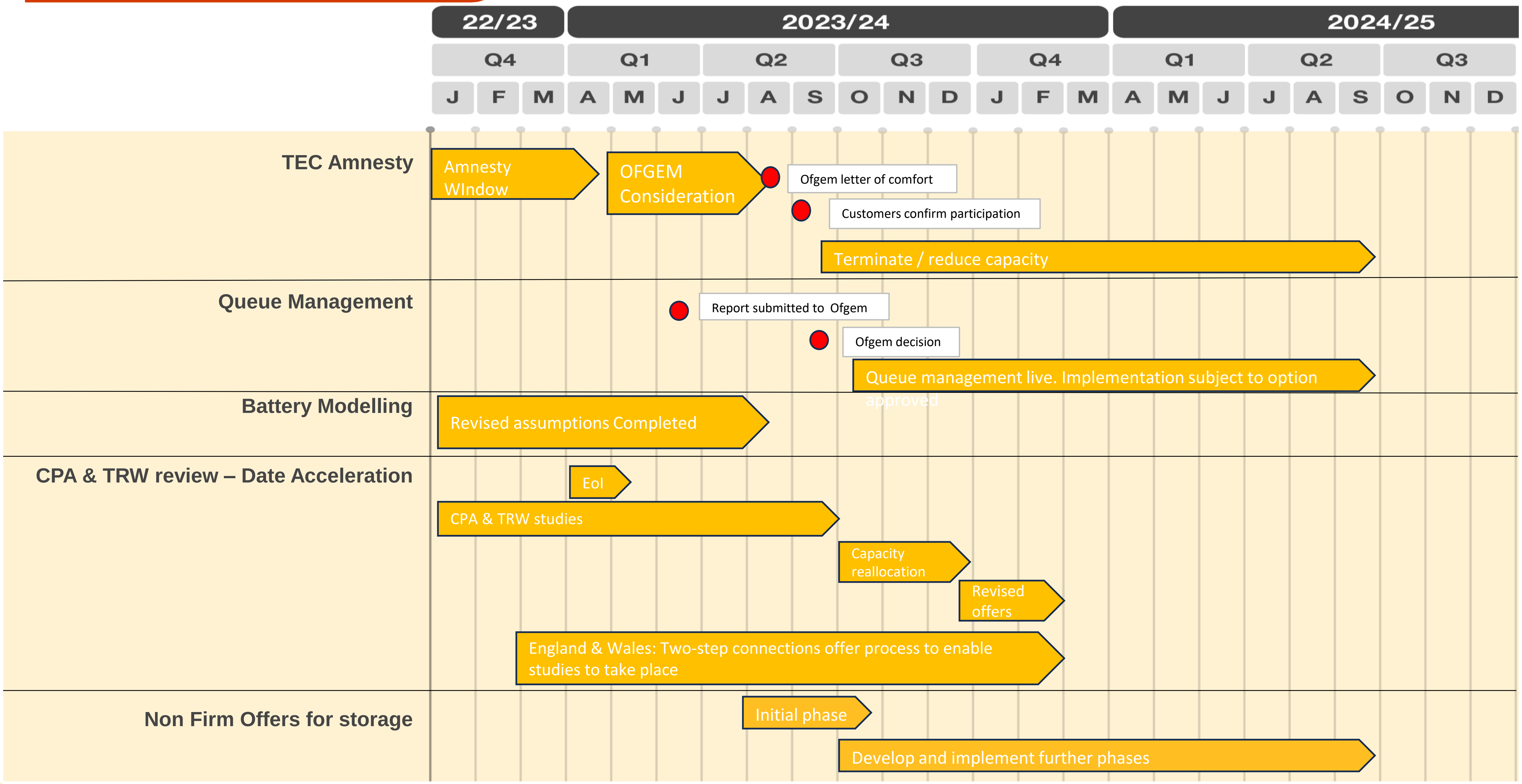
What has happened since then

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 the EOI to understand the appetite from storage for an accelerated non firm connection date.

Update

Our intention is to launch a tranche 1 to see if there is appetite for such a product. Initially this will be for ~20 customers (~10GW) at sites selected by NGET. Tranche 1 is for E&W transmission, with Scottish storage sites being rolled out early 2024. Distributed connected storage is being progressed together with the ENA through their three point plan (point 2 – changing how transmission and distribution coordinate connections). The ENA is running a webinar 28th September for more info.

Connections Five Point Plan – Summary



Connections Reform

The Target Model Options

Feedback and evolution led to 4 Target Model Options (TMOs) being developed

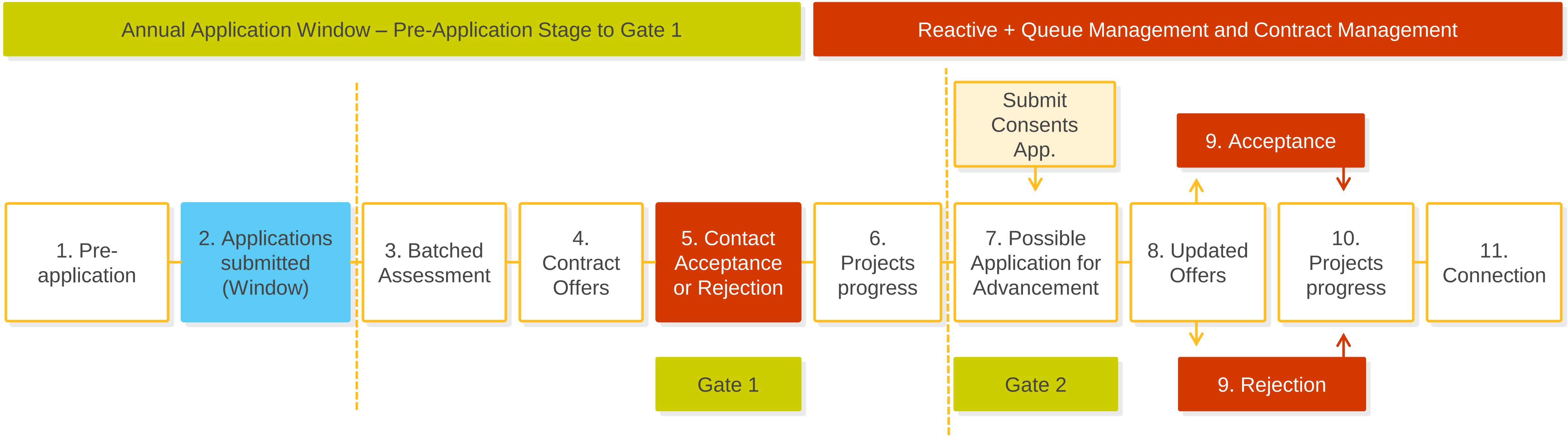
- Each TMO consists of a core process and a selection of changes from **18** add-on categories.
- Other core processes were considered but not progressed (e.g. more / later gates and multiple window processes).

Target Model Option 1 (TMO1)	Pre Application →	Application + Full Offer (Gate 1) →	Contracted Period →	Connection		
Target Model Option 2 (TMO2)	Pre Application →	Application + Indicative Offer (Gate 1) →	Contracted Period →	Submit Consent + Full Offer (Gate 2) →	Contracted Period →	Connection
Target Model Option 3 (TMO3)	Pre Application →	Application + Indicative Offer (Gate 1) →	Contracted Period →	Submit Consent + Full Offer via Window (Gate 2) →	Contracted Period →	Connection
Target Model Option 4 (TMO4)	Pre Application →	Application + Full Offer via Window (Gate 1) →	Contracted Period →	Submit Consent (Gate 2) →	Contracted Period →	Connection

Initial Recommendation Summary

Our initial recommendation is for Target Model Option 4.

- It has an early window for coordinated network design and a later gate for potential acceleration of progressing projects.
- Various other improvements throughout the process based on feedback.



Connections Reform Phase 2 Consultation Responses

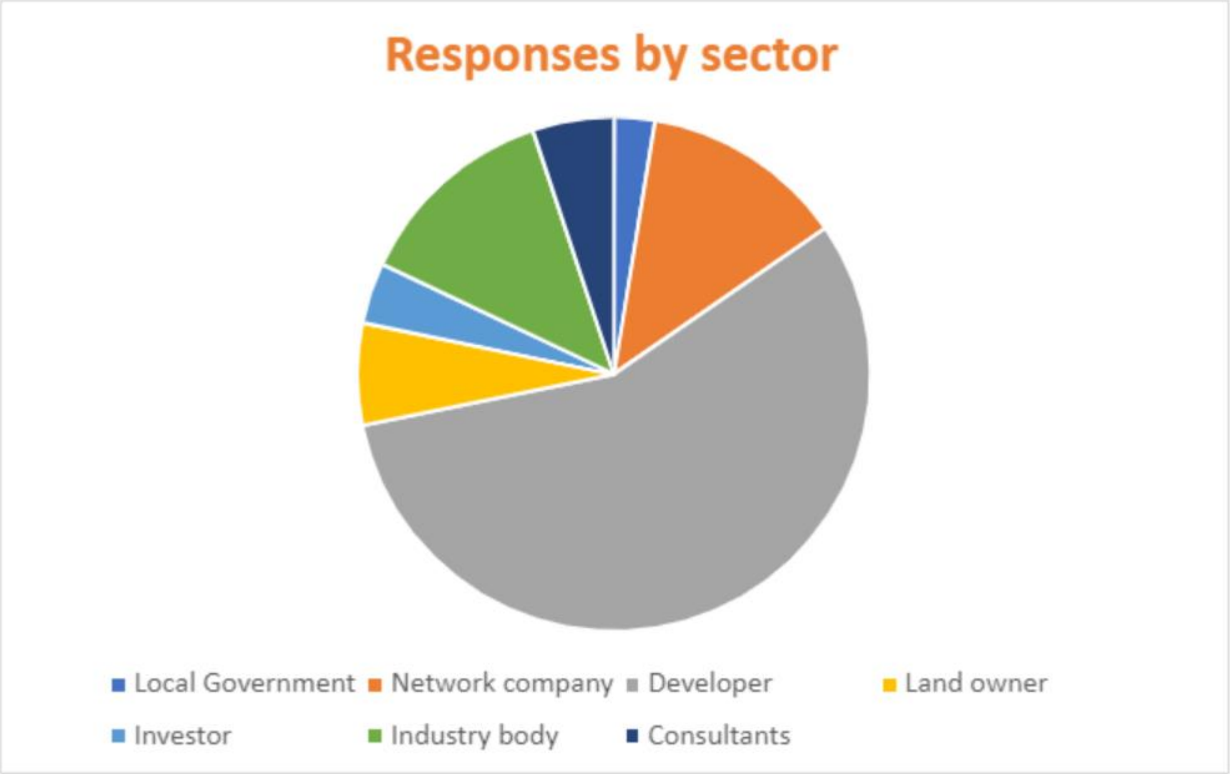
We consulted between 13 June 2023 and 28 July 2023 and received 78 consultation responses from a broad range of stakeholders (*see below*) and the non-confidential responses are published here

Appendix 1 – Consultation Response Stakeholder Composition

The following provides an overview of the broad range of respondents split by stakeholder classification.

There is one notable omission, and so we plan to directly engage to obtain views i.e. interconnector developers.

We are also in the process of a tranche of direct engagement with industry investors to obtain their views.



Foundational Design Options and Key Variations

The majority of stakeholders who provided a clear view agreed with our initial positions on the three foundational design options and five key variations. This includes:

- Agreement with our initial proposal to not separate capacity and connections and introduce auctions;
- Not mandating centralised deployment of generation and large demand (but future-proof the connections process to facilitate centralised deployment if it were introduced in future).

Target Model Options (TMOs)

The majority of stakeholders who provided a clear view agreed that the options we presented as the shortlist of potential future end to end process models (i.e. the TMOs) were a reasonable range of options. Few alternative options were suggested with no commonality of alternatives.

Views on the TMOs

Of the four options presented to stakeholders, there was some outright support for our preferred option (TMO4, comprising an annual early-stage application window and two formal gates).

There was also some conditional/cautious support for TMO4 with the main concerns being:

- Requests for more frequent application windows and/or reduced application window duration;
- More detail on how Reserved Developer Capacity would work in practice (general support for the principle); and
- When Gate 2 occurs (i.e. the gate that allows the opportunity to advance connection dates) – we had suggested this might be when the application for Planning Consents has been submitted but there wasn't any consensus on the most appropriate timing for this gate.

Combining outright support and conditional/cautious support would result in majority support for TMO4.

Minority support for TMOs 1, 2 and 3 and some variation suggestions.

Quick Wins - On areas we noted as potential quick wins (i.e. an improved Pre-Application Stage and the introduction of a 'Letter of Authority' to submit a connection application), there was near unanimous support and a lot of suggestions about how to design/implement such improvements.

- An exception relates to the Pre-Application Stage fee, where (whilst there was still majority support overall) there were mixed views.

Implementation - Mixed views, with some stakeholders advocating the need for pace, and some noting the need for more detailed development of the end-to-end process and for continued stakeholder engagement.

Transitional Arrangements - Minimal suggestions about the appropriate transitional arrangements before 'go live' of the of the reformed connections process, although some stakeholders provided helpful views.

Next Steps

We have reviewed the consultation responses and will continue to further consider the feedback over the next few weeks to refine our proposals prior to making final recommendations by November 2023.

We will be taking updates to our external governance groups (DPEG and Steering Group) over the coming weeks and we will also be providing updates and running a table session on key topic areas at Customer Seminars on 16 October 2023.

Email us

Box.connectionsreform@nationalgrideso.com

Terms of Reference

Joseph Henry, ESO

Next steps

- Focus topic for next meeting
- Proposed date of next meeting is 24. October
- AOB

ESO