

A landscape photograph featuring a valley with a river and a mountain range in the background. The sky is filled with dramatic, golden-hued clouds, suggesting a sunrise or sunset. Several bright, glowing yellow light trails curve across the valley floor, creating a sense of motion and energy. The overall tone is warm and inspiring.

# Connections strategic change & impact to CUSC Meeting #1

**18/07/23**



# **Introduction & ways of working**

**Karen Thompson-Lilley, ESO**

# Terms of Reference

Joseph Henry, ESO



# Terms of Reference (ToR)

## **Ask of Workgroup – Agree/Amend ToR**

Terms of Reference distributed to subgroup for review ahead of workgroup.

- Quick Walk Through of ToR (5 mins).

Included in ToR:

- Background
  - Rationale for Subgroup
  - Scope
  - Chairing and Secretariat
  - Reporting
  - Meetings
- 
- Does the subgroup agree with the scope outlined within the Terms of Reference?
  - Are there any amends needed to the ToR?
  - Does the subgroup agree with the proposed ways of updating industry?

## **Ask of Workgroup – Agree/Amend ToR**



## **Overview of 5-point plan landscape**

**Laura Henry, ESO**

# Our 5 Point Plan

To manage some of these immediate challenges, our 5 point plan is helping.

## 1. TEC Amnesty

This was the first TEC Amnesty since 2013. We received a total of 8.1GW of applications and are currently working with Ofgem to allow the termination/reduction of TEC process from connection agreements.

## 2. Construction Planning Assumptions Review

Review the Construction Planning Assumptions to reflect current connection rates and reducing the assumption that most projects in the queue will connect. This will allow connection dates to be brought forward and reduce works in existing agreements.

## 3. Treatment of BESS

Revising the way storage connections are modelled as the current process takes a conservative view of what the assumed behaviours of storage could be. These changes will allow storage to unlock more capacity to connect others.

## 4. Queue Management

There is currently no mechanism in the CUSC to terminate projects that are not progressing. If changes are approved, it would allow the ESO to terminate projects that are not progressing against their contracted milestones and agreed timescales, in order to free up capacity for other projects that can progress.

## 5. Non-firm Offer Development

The policy aims to accelerate the connection of energy storage projects by removing the non-critical enabling works to be complete before they connect under a non-firm connection agreement.



## 5 Point Plan –Code changes

5 point Plan Initiative	TEC Amnesty	CPA Assumption Review/Two Step Offer process	Treatment of BESS	Queue Management	Non-Firm
Code change required?	<p>No code change required.</p> <p>Letter of comfort from Ofgem that the ESO does not have to invoice the customer</p>	<p>No code change required.</p> <p>Ofgem have given a 12 month approval for the CPA Review /Two step offer process to take place</p>	<p>No code change required.</p>	<p>Code change required.</p> <p>CMP 376 now with Ofgem for a decision, pre 2026 contracts will not be subject to Queue Management Milestones ahead of CMP 376 decision</p>	<p>No code change identified as yet.</p> <p>However policy still under development.</p>



# **Overview of Connections Reform**

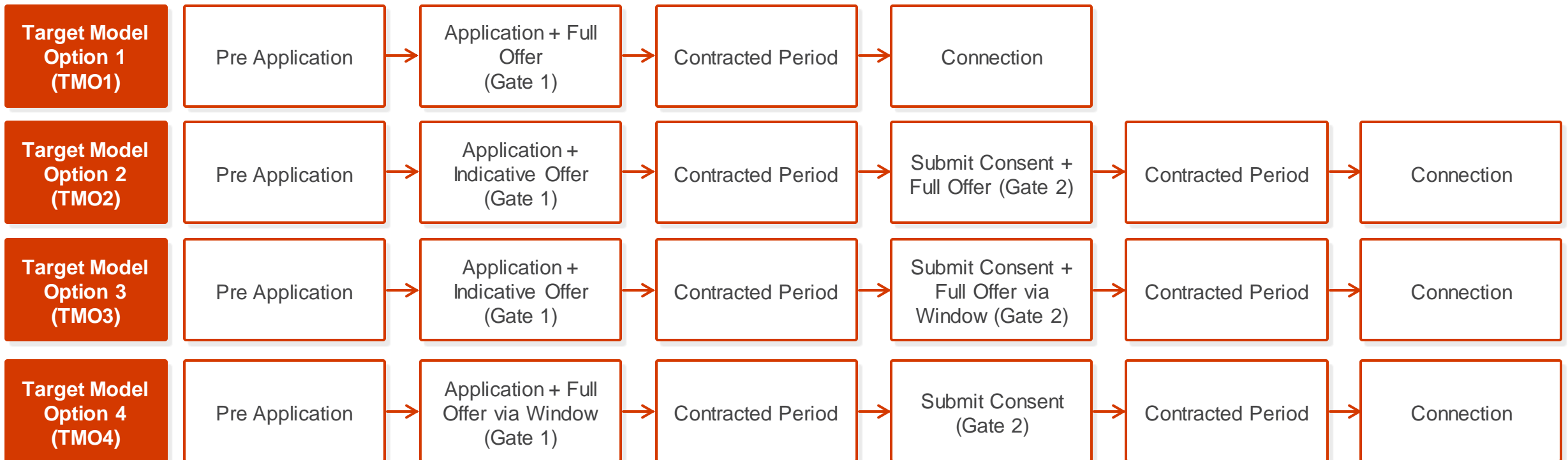
**Paul Mullen, ESO**



# The Target Model Options

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

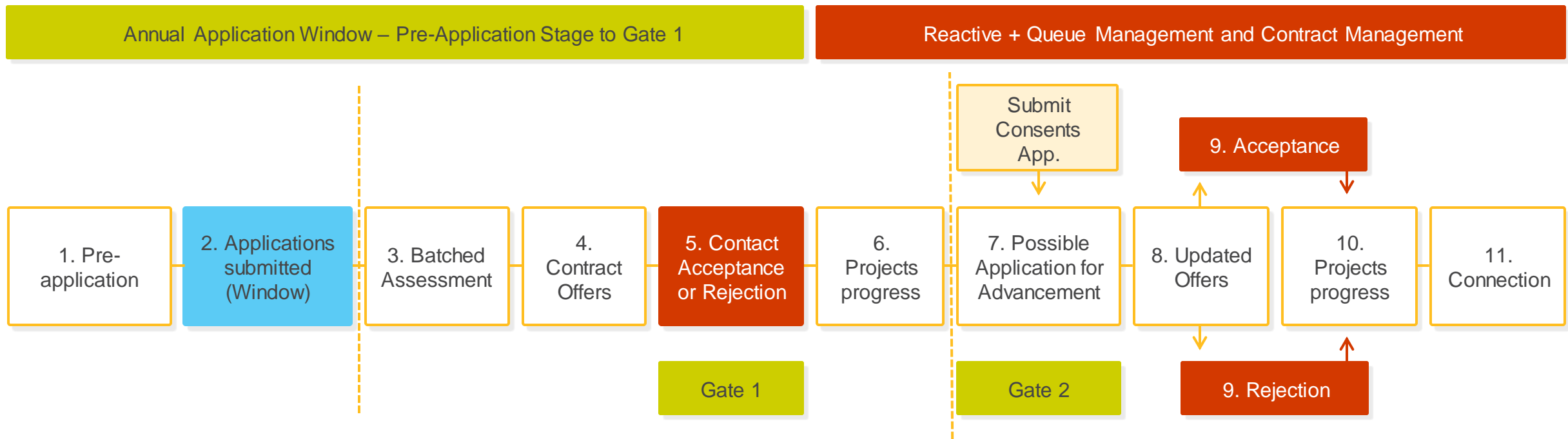
- Each TMO consists of a core process and a selection of changes from **18** add-on categories.
- Other core processes were considered but not progressed (e.g. more / later gates and multiple window processes).



# 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.



## Next Steps

---

The Connections Reform Consultation can be found on our website [here](#) and will be open until **Friday 28 July** for formal feedback.

Get in touch to share your views!



### Email us

Box.connectionsreform@nationalgrideso.com

After the Connections Reform Consultation has closed, we will review responses, refine our proposals and confirm our final recommendations. We will develop a detailed design and implementation plan, including consideration of transitional arrangements from the live connections process to the reformed process. We expect to publish our final recommendations and an implementation plan by November 2023.



## **Non-Firm Offer Development**

**Djaved Rostom & William Kirk-Wilson,  
ESO**

# Accelerating Energy Storage Connections policy update (point 5 of the 5 point plan)

1. On 2<sup>nd</sup> June, the ESO published '[Get on, get back or get out of the energy queue](#)' - ESO announces urgent action to speed up electricity grid connections by up to 10 years. This included a [policy paper](#) outlining how we plan to connect energy storage into the grid more quickly.
2. The policy outlined how we are improving connection arrangements for storage projects (point 5 of our 5 point plan).
3. The new policy allows storage projects to connect early ahead of non-critical enabling works, but it will be customer choice, they will be connecting as a design variation. It will be non-firm and restrictions will be uncompensated.
4. This is because our analysis suggests that storage supports system operability at times of stress, reducing the carbon and operational cost.
5. The policy paper wording was misleading as it suggested that we were expanding the concept of non-firm to include intact system conditions.
6. A very similar process is already happening at selected sites.
7. But we need to develop better tools and contracts to manage the more widespread use of the policy application.
8. As we are using the existing design variation provisions in the CUSC and SQSS to implement this change, we don't believe we need any code changes ahead of implementation.

# Accelerating Energy Storage Connections policy update (point 5 of the 5 point plan)

- 1. The initial CUSC feedback focused on whether there would be need for any CUSC changes (see below).
- 2. We don't think so (yet) and will explain the CUSC and SQSS text that this falls under in the next 2 slides.

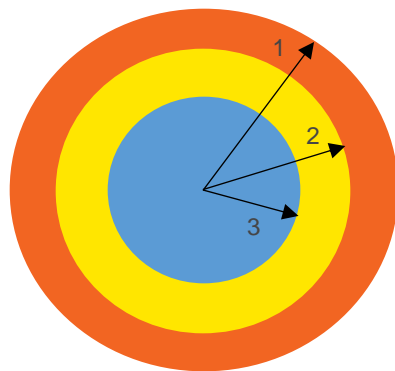
## CUSC feedback session on Press article & 5 point plan

Topic	Question/feedback	ESO initial response
<b>Energy Storage (BESS) initiative – Interim offer (non-firm)</b>	Why are these changes not within CUSC governance? We sign up to CUSC and not to policy for then ESO to extend. How can ESO just decide to trial an extended policy without due governance? How will ESO ensure non discrimination in BM/operationally once the ability for non-firm connections is extended? ESO need to understand that policy changes can have far reaching implications that have not been considered and we need ESO to understand these.	The proposed approach within the 5 point plan is to operate within policy/SQSS and the reference to future CUSC changes was in regards to whether in the future further changes would be needed if and when policy needs to change. We can address all questions and concerns as a deep dive in the initial TCMF sub-group. We understand that you need some visibility of how increasing the potential for non-firm connections will impact the market and customers going forward and will aim to provide some articulation of how this will work in practice operationally.

# Accelerating Energy Storage Connections policy update

## SQSS provisions

1. The SQSS Section 2 sets out the generation connection criteria required for a SQSS compliant connection.
2. Connect and Manage (C&M) arrangements allows generators to connect ahead of the completion of wider transmission reinforcement works. CUSC Section 13 specifies the minimum enabling works to be delivered ahead of a connection.
3. The SQSS allows (2.15) for customer choice design variations for works as long as a design variation doesn't:
  1. Impact the security of the MITS
  2. Increase investment or operational costs
  3. Compromise our ability to meet other stator or licence obligations



1. Works required under SQSS to achieve a compliant connection
2. Works required under C&M to achieve a compliant connection
3. Works required under C&M + SQSS design variation to achieve a compliant connection

### Variations to Connection Designs

- 2.15 Variations, arising from a generation customer's request, to the generation connection design necessary to meet the requirements of paragraphs 2.5 to 2.14 shall also satisfy the requirements of this Standard provided that the varied design satisfies the conditions set out in paragraphs 2.16.1 to 2.16.3. For example, such a generation connection design variation may be used to take account of the particular characteristics of a *power station*.
- 2.16 Any generation connection design variation must not, other than in respect of the generation customer requesting the variation, either immediately or in the foreseeable future:
  - 2.16.1 reduce the security of the *MITS* to below the minimum planning criteria specified in Section 4; or
  - 2.16.2 result in additional investment or operational costs to any particular customer or overall, or a reduction in the security and quality of supply of the affected customers' connections to below the planning criteria in this section or Section 3, unless specific agreements are reached with affected customers; or
  - 2.16.3 compromise any *transmission licensee's* ability to meet other statutory obligations or licence obligations.

The non-firm connection being developed for storage projects aligns with the provisions of the CUSC and SQSS. Instead of requiring reinforcement works to manage intact overloads (SQSS Pre-fault criteria), ESO will be developing tools and processes to manage such overloads.

# Accelerating Energy Storage Connections policy update

## CUSC provisions

1. 2.13.7 of the CUSC recognises that the SQSS allows for design variations where they are customer choice.

2.13.7 In the event that the **User** requests a **Connection Offer** in respect of a **Connection Site** located **Onshore** on the basis of a **Design Variation** then:

- (i) **The Company** shall only be obliged to provide such an offer in so far as such an offer satisfies the conditions detailed in Chapter 2 of the **NETS SQSS**; and
- (ii) **The Company** shall be obliged, at the request of the **User** as part of the **Connection Offer**, to provide such information that the **User** may reasonably require in order to assess the probability of **Notification of Restrictions on Availability** being issued. For the avoidance of doubt, the information that is provided by **The Company** under this clause shall be a best estimate only and is not legally binding.



# The product

We are currently working with the TOs to develop the product.

We will communicate more info as soon as it is agreed, expected the next few months. However below is the direction of travel (but it could change):

1. This will be a customer choice product which we are offering to storage providers as they can support the operability of the system. It will be for storage providers to determine if it is right for them.
2. Storage providers can connect early and non critical enabling works will not delay their connection.
3. The connection will be non firm and uncompensated.
4. The contract will contain the system conditions where output will be constrained.
5. Information will be provided to help providers understand the frequency of the curtailment.
6. Initially this will be rolled out to EOI respondents as a phase 1. However the EOI is not a pre-requisite and all storage providers are eligible.
7. The process to notify storage providers about a curtailment is being developed.
8. The learnings from the behaviour will inform our next steps i.e. whether any code/framework changes are needed.

# Connections Signposting

- Connections [homepage](#) on nationalgrideso.com

This section contains everything you need to understand the connections process, including links to webpages on our 5 point-plan and Connections Reform

- [Contact us](#) if you have any questions at all – our team is on hand to help
- Connections Seminars and Agoras – you can sign up [here](#) to attend
- Monthly updates are provided on Connections Reform as an agenda item at TCMF/CISG

To receive regular TCMF/CISG updates, you can subscribe to the mailing list or download the calendar invites with joining details [here](#)

# Next Session

- Focus topic for next meeting
- Date of next meeting
- AOB

