

# Strategic Connections Group

Improving the customer connections experience



# Welcome

## Housekeeping

Please keep yourselves muted, unless you are asking a question.

We will be opening for a Q&A session after all the presenters have provided updates.

Therefore, we ask for people to put questions in the chat throughout the presentations and we will ask them within the Q&A session.

This session is being recorded and the full slide deck will be published online after the webinar.

# Strategic Connections Group External Webinar - Agenda

Thursday 29 August 2024, 10:00 – 12:00

| ITEM | AGENDA ITEM  | PURPOSE        | LEAD                            | TIME          |
|------|--|----------------|---------------------------------|---------------|
| 1    | <b>Welcome and Introduction</b>  | Welcome        | ENA                             | 10:00 – 10:05 |
| 2    | <b>TMO4+</b>   | For Update     | ESO                             | 10:05 – 10:30 |
| 3    | <b>Q&amp;A</b>   | For Discussion | All                             | 10:30 – 10:50 |
| 4    | <b>SCG Sub-group Delivery Updates</b> <ul style="list-style-type: none"><li>• Integrated Queue Management &amp; Entry</li><li>• T&amp;D – Tech Limits</li><li>• T&amp;D - DFTC Methodology</li><li>• T&amp;D - Connections Charging Reform</li><li>• Electricity Storage Connections</li><li>• Connections Data</li><li>• Joint T&amp;D databook</li></ul> | For Update     | ENA /<br>Chair of each<br>group | 10:50 – 11:30 |
| 5    | <b>Q&amp;A</b>   | For Discussion | All                             | 11:30 – 11:55 |
| 6    | <b>Finish and Close</b>  | Closing        | ENA                             | 11:55 – 12:00 |

# TMO4+

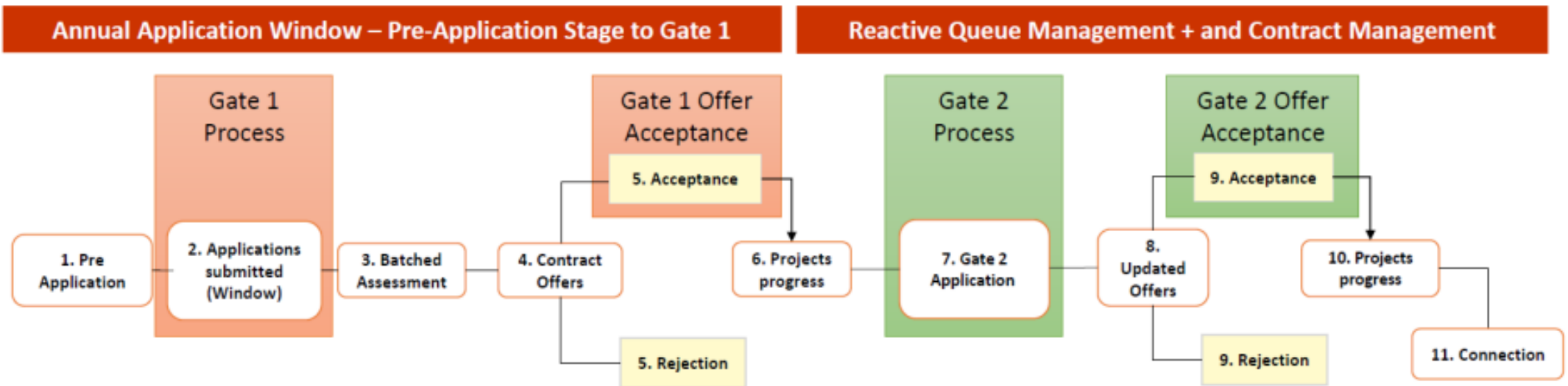


# Connections Reform Update

August 2024

# Target Model Option (TMO) 4+

## July code modifications consultation recommendation



## Methodologies | TMO4+ introduces a set of methodologies that help operationalise the reformed connections process

| Connections Methodology           | Summary   |
|-----------------------------------|---|
| <b>Connections Network Design</b> | Sets out how ESO/TOs design the connections network at Gate 1 and Gate 2 to improve planning capabilities   |
| <b>Gate 2 Criteria</b>            | Sets out the criteria that projects need to meet in order to pass Gate 2 and be allocated a firm connection date and location in the new connections queue  |
| <b>Designated projects</b>        | <p>Sets out the criteria and process that NESO will use to designate specific projects as:</p> <ul style="list-style-type: none"><li>(i) critical to security of supply security</li><li>(ii) critical to ensuring system operability</li><li>(iii) materially reduce system constraints</li></ul> <p>Sets out how Designated projects can be prioritised in terms of capacity allocation during a Gate 2 process</p> |



# What Has Changed?

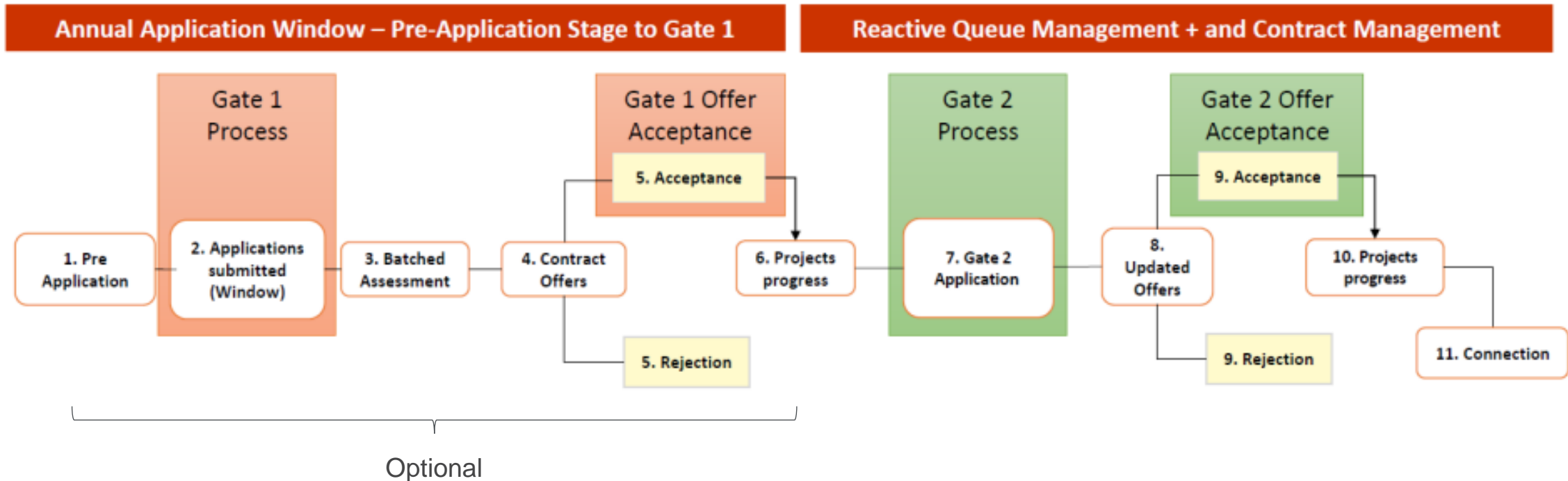


# What has changed?

- **Code modification consultation responses**
- **Clean Power 2030**



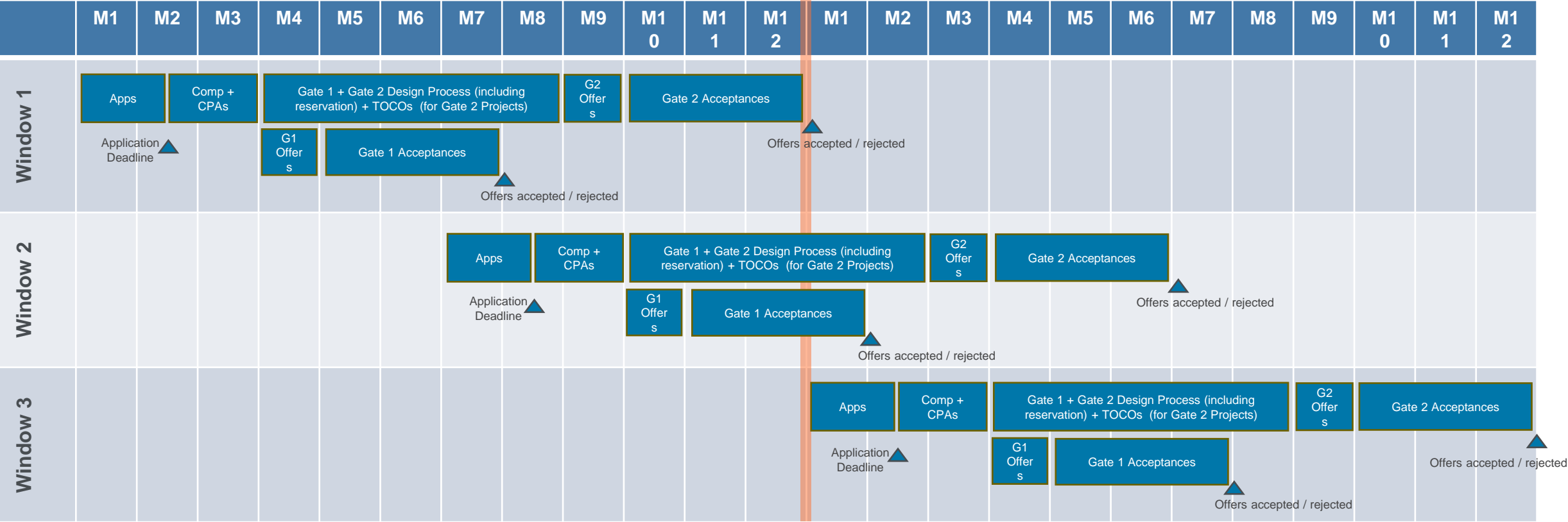
# Overview of ESO proposed revised TMO4+ Process



## Other key ESO proposed changes

- Twice a year combined Gate 1 and Gate 2
- Descoping of DFTC from these code mods
- Greater potential for ESO to reserve connection point/capacity for long-lead time projects submitting Gate 1 Applications
- Timescales from Gate 2 Offer acceptance to forward looking Queue Management milestone M1 (submit planning) extended
- Scope of methodologies to be reviewed in light of potential alignment with CP2030
- Timetable extended to accommodate potential alignment with CP2030
- BEGA / BELLA Process – Generators apply outside application windows with the DNO/IDNO mod apps being submitted in a Gate 2 window.

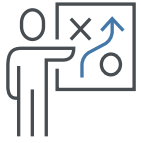
# ESO proposed combined Gate 1 and Gate 2 processes



**The Month of M1 Remains TBC**

*The appropriate level of codification related to frequency and duration remains to be confirmed, but as the current codified process timescales are derived from the ESO and TO transmission licences this will in part depend upon changes to licence*

# Potential Clean Power 2030 alignment



Clean Power 2030 has potential to set out a plan for what generation mix can best help us deliver clean power by 2030

The plan may extend beyond 2030, to be followed by a Strategic Spatial Energy Plan



We are considering whether and how TMO4+ could operationalise Clean Power 2030 - 'first ready and needed, first connected'?

Will make recommendations to Connections Delivery Board at end September

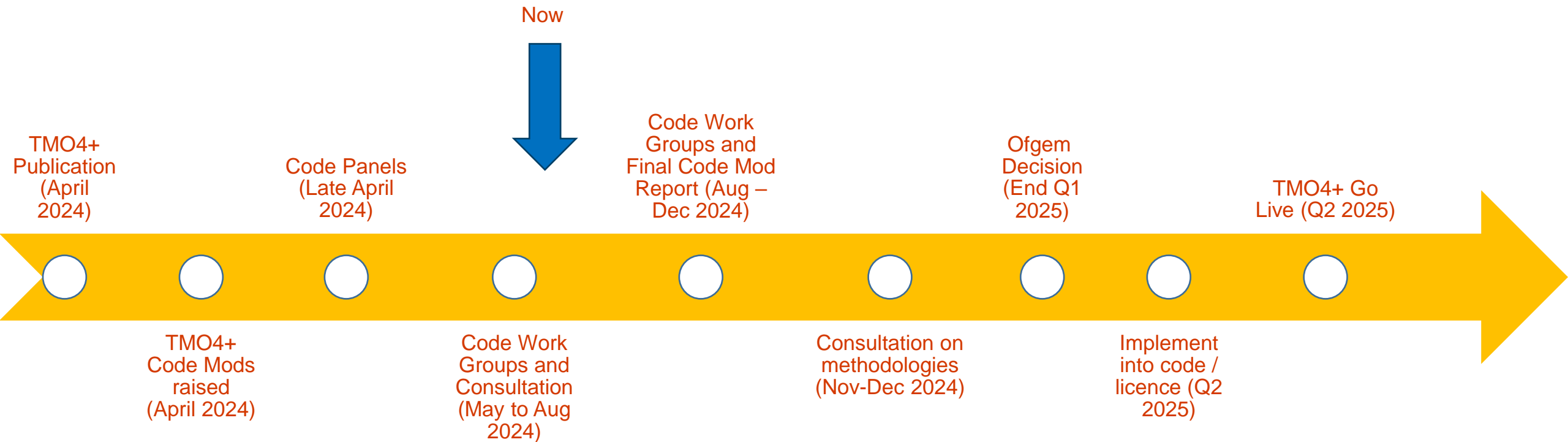


ESO will be working with Government, Ofgem and industry on Clean Power 2030

Consultation on methodologies to operationalise Clean Power 2030 in connections would follow

# Next steps





Timeline for distribution customers is subject to approval of distribution code changes  
 Industry will have the opportunity to respond to the consultations on the methodologies

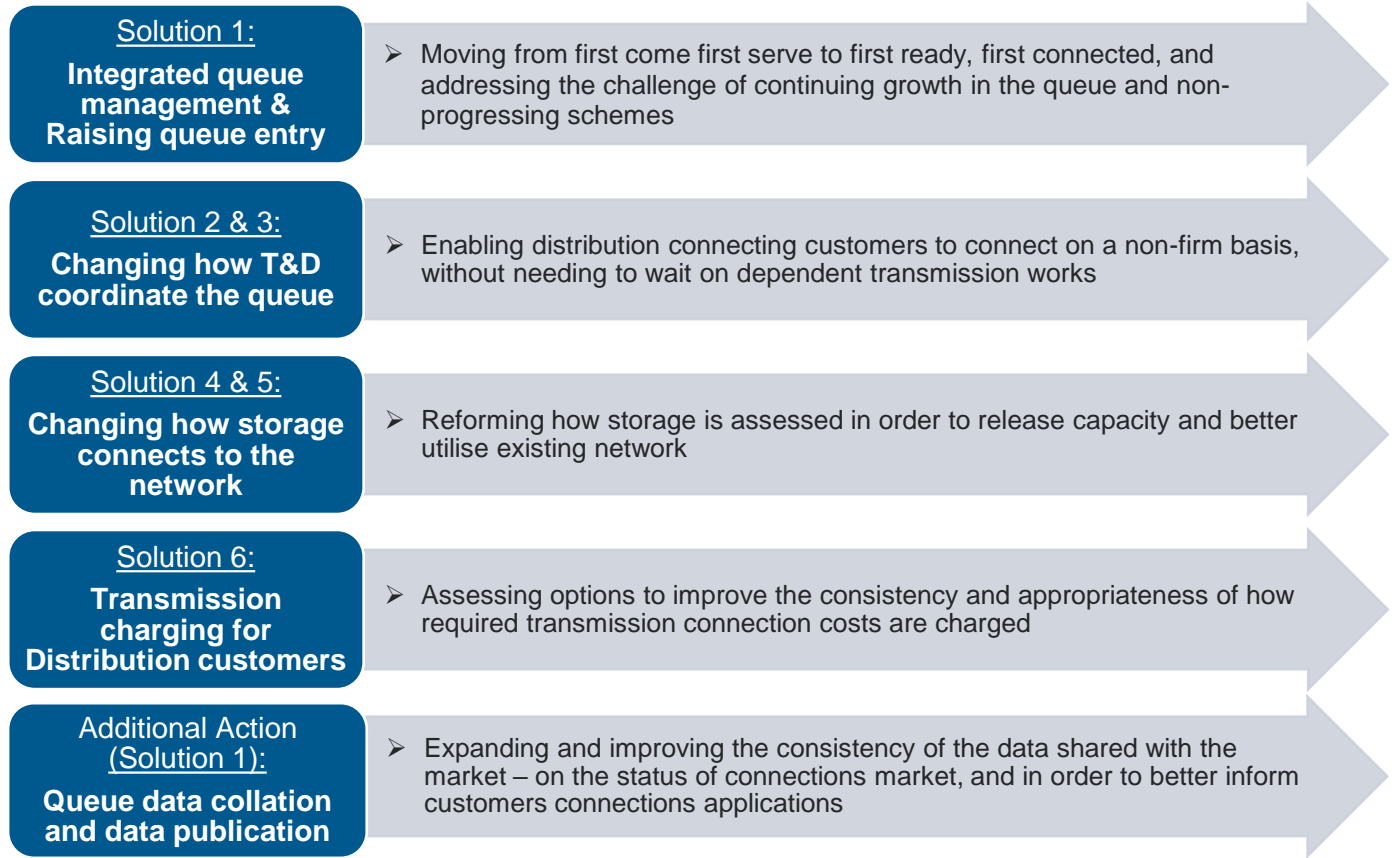
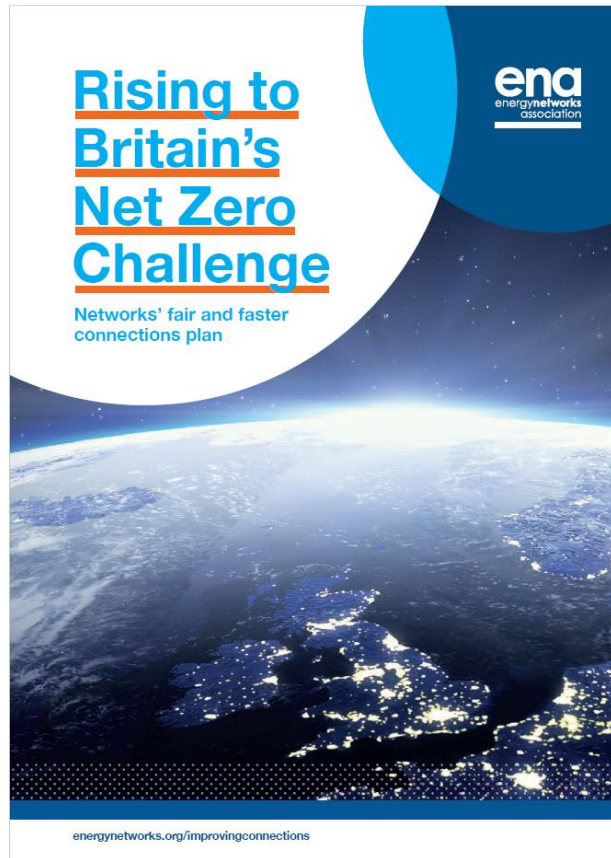
# Q&A



# Strategic Connections Group Updates

# Strategic Connections Group

Through the ENAs Strategic Connections Group – all of Britain's networks are delivering reforms and significant benefits improving connections outcomes for customers in line with their plan for Rising to Britain's Net Zero Challenge, which are being delivered in coordination with NG ESO's wider Connections Reform and tactical initiatives at transmission level



# Integrated Queue Management & Entry

## ENA Integrated queue management & Entry Group



The group was formed to raise queue entry requirements & refine the current queue management process.



Our aim is to reduce congestion in the connections queue, implement robust due diligence, reject unclear or speculative applications that lack detail and prioritise shovel ready projects.



Through consultation with the Connection Delivery Board (CDB) and the great feedback from the Connections Process Delivery Group (CPAG) we have developed new queue entry requirements.

# G99 Revision - Refining the connections application process

## New G99 application requirements:

A letter of authority (LoA) must be submitted with exclusivity to the land and a signed legal agreement for 36-month option (aligned with TMO4+).



A detailed site layout plan must be submitted including an engineering design plan which shows the land in accordance with LoA provided – including the redline boundaries.



Part 4 of the G99 is now mandatory.



Applicants must submit a detailed project plan which includes all the key stages and dates of the project, through to energisation.

- 1 • Changes reviewed by EU Network Code Group 04/09/2024
- 2 • Changes to be published week commencing the 09/09/2024
- 3 • Ambition for the changes to be implemented week 01/10/2024

The above changes have been worked up through steer from CDB, CPAG and stakeholder input. The changes will be taken to CDB prior to the timeline being confirmed.

# Transmission & Distribution – Tech Limits

# Technical Limits – Delivering benefit to customers

**Workstream Objective:** Technical Limits was to set out the requirements to allow for customers to connect projects ahead of Transmission reinforcement on a non-firm basis.

| Technical Limits updates |   |
|--------------------------|---|
| 1.                       | Technical Limits guidance document published on ENA's website.      |
| 2.                       | Technical Limits rolled out under a phased approach across GB DNOs. |
| 3.                       | 88% of GSPs within scope of Technical Limits.                       |

| Technical limits benefits |  |            |             |    |        |         |        |        |        |       |       |
|---------------------------|--|------------|-------------|----|--------|---------|--------|--------|--------|-------|-------|
| •                         | <b>9,679MW</b> of capacity offered Tech Limits with <b>4,645MW</b> of Accepted offers.   |            |             |    |        |         |        |        |        |       |       |
| •                         | Average acceleration of <b>80 Months</b> (6.7 years)   |            |             |    |        |         |        |        |        |       |       |
| •                         | Average curtailment by Technology:   |            |             |    |        |         |        |        |        |       |       |
|                           | <table border="1"> <thead> <tr> <th>Technology</th> <th>Curtailment</th> </tr> </thead> <tbody> <tr> <td>PV</td> <td>28.04%</td> </tr> <tr> <td>Storage</td> <td>17.63%</td> </tr> <tr> <td>Hybrid</td> <td>17.72%</td> </tr> <tr> <td>Other</td> <td>7.50%</td> </tr> </tbody> </table> | Technology | Curtailment | PV | 28.04% | Storage | 17.63% | Hybrid | 17.72% | Other | 7.50% |
| Technology                | Curtailment  |            |             |    |        |         |        |        |        |       |       |
| PV                        | 28.04%   |            |             |    |        |         |        |        |        |       |       |
| Storage                   | 17.63%   |            |             |    |        |         |        |        |        |       |       |
| Hybrid                    | 17.72%   |            |             |    |        |         |        |        |        |       |       |
| Other                     | 7.50%  |            |             |    |        |         |        |        |        |       |       |

| Ongoing work |   |
|--------------|---|
| 1.           | Continued roll out of Technical Limits across GSPs.                 |
| 2.           | Identify and implement a Demand solution utilising Technical Limits |
| 3.           | Discussions around Technical Limits BAU and enduring solutions.     |

# Transmission & Distribution – DFTC



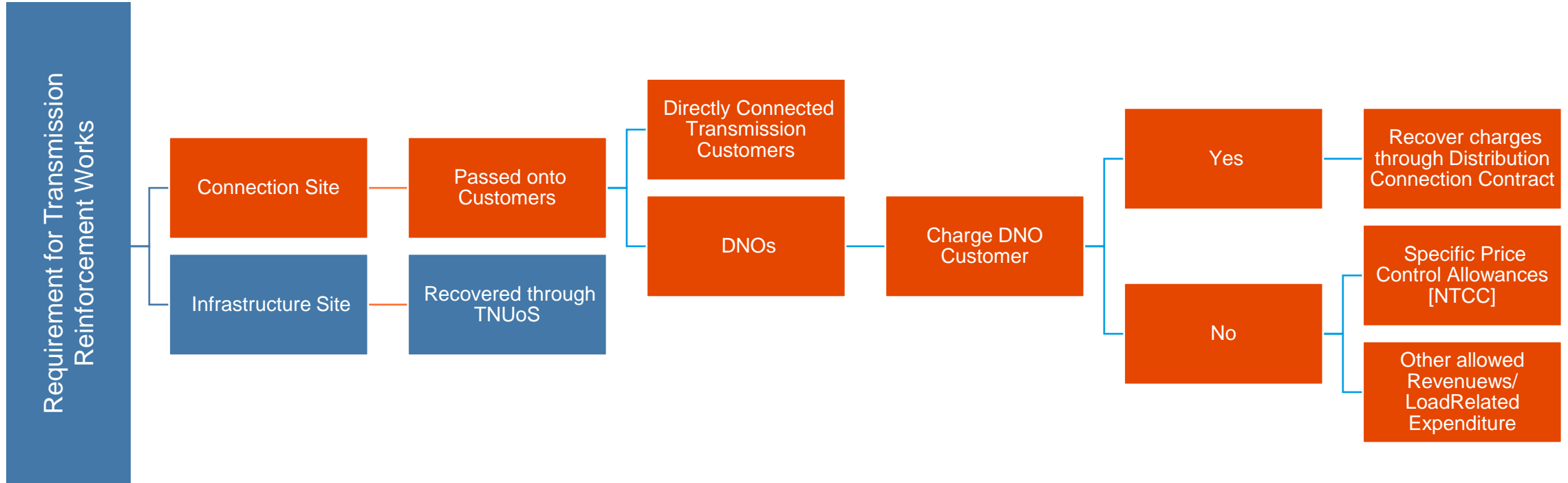
# Distribution Forecast Transmission Capacity (DFTC)

**Workstream Objective:** DFTC was scoped to provide Distribution Embedded Generation with a firm Transmission connection queue position and date of connection, within the Distribution Connection offer.

| PREVIOUS DFTC   | DFTC NOW  |
|---|---|
| <ol style="list-style-type: none"> <li>1. Pre-TMO4+ DFTC was to allow Distribution Network Operators to forecast embedded generation which is to connect and allow them to have Transmission capacity assigned to them for sending within customer connection offers.</li> <li>2. TMO4+ changed the scope of DFTC to allow for DNOs to forecast embedded generation and provide indicative dates for connection at the distribution offer stage.</li> </ol> | <ul style="list-style-type: none"> <li>• Following the CMP434 and 435 consultations the original proposal was changed to remove DFTC from the code modification and make “Gate 1” optional.</li> <li>• These changes descoped DFTC from TMO4+ completely.</li> <li>• DFTC is still a benefit for DNOs to provide a forecast of future generation connections to ESO/TOs.</li> </ul> |
| <b>Ongoing work</b>   |   |
| <ol style="list-style-type: none"> <li>1. Distribution generation forecast data to be moved into Grid Code, with the aim to incorporate this into an existing Grid Code change to enhance planning data exchange between DNOs and ESO/TOs.</li> </ol>   |   |

# Transmission Charging Reform

# Transmission Charges- Context & Challenge



# Options Development and Next Steps



# Battery Storage Connections

# Distribution Electricity Storage (ES) Connections

**Workstream Objective:** create better use of existing network capacity, avoid investments to add capacity until we can be sure they're beneficial, and provide distribution ES customers with a more common and consistent treatment across DNOs.

| Phase 1: Tactical Solutions  | Tactical solution metrics (to end July 2024)                                       |             |
|--|--|-------------|
| <ol style="list-style-type: none"> <li>Developed Tactical Solutions 1-3 (supported by Ofgem): <a href="#">ENA SCG Battery Storage Solutions - Ofgem letter of support</a></li> <li><a href="#">Tactical Solutions 1-3 guidance documents</a> prepared and published. DNOs implemented from 30 September 2023.</li> <li>Metrics to track implementation.</li> </ol> | New capacity <b>offered</b> to ES customers with Tactical Solution access rights.  | <b>50GW</b> |
|  | New capacity <b>accepted</b> by ES customers with Tactical Solution access rights. | <b>20GW</b> |

| Phase 2: Ongoing work  |
|--|
| <ol style="list-style-type: none"> <li>Alignment at the transmission boundary with the Tactical Solutions.</li> <li>Updates to EREC P2 (and EREP 130) based on the outcomes of the Tactical Solutions.</li> <li>Techno-socioeconomic analysis work to determine if any further changes to default access rights are required.</li> </ol> |

**Successful implementation of common access rights and planning assumptions for distribution connected Energy Storage connections, to make best use of network capacity and ensure consistent customer experience.**

# Data Subgroup

# Data Working Group

**Workstream Objective:** Delivery against CAP action 3.5.1 a “Digital View of Connections”. To implement a plan for digital view of connections to be made available for all connecting customers providing clarity and visibility of the connections queue.

| Achievements  | Ongoing  |
|---|--|
| <ol style="list-style-type: none"> <li>1. Hosting all connections related information available for customers in one location on ENA’s website, allowing connecting customers visibility of tools available to aid the connections process.</li> <li>2. Publish queue data each month for visibility.</li> <li>3. Provide an update each month at CDB on the combined T&amp;D queue, newly accepted projects and applications which have been requested.</li> </ol> | <ol style="list-style-type: none"> <li>1. Half of DNOs now have a digital view of connections with others progressing for deployment in Q4 2024.</li> <li>2. ESO’s Connections 360: A geospatial mapping tool to produce a digital view of the transmission pipeline.               <ul style="list-style-type: none"> <li>- Currently testing ahead of deployment at the end of September 2024.</li> <li>- Aims to offer customer self-serve and will be publicly available via the ESO website.</li> </ul> </li> </ol> |
| Future work   |  |
| <ol style="list-style-type: none"> <li>1. Digital view of connections – Progressing on from MVP and providing further granularity of the queue where possible and investigating where DNO and ESO systems can be linked.</li> <li>2. Review connections data reporting to ensure that they are reflective of the TMO4+ outcomes and Ofgem’s end to end review of connections incentives and obligations.</li> </ol>   |  |



# Joint T&D Databook

# Joint T&D Databook – July Dashboard Summary

The summary of the joint T&D connections Databook, data is inclusive of transmission and distribution and demand, storage, and generation projects. Data compiled July 2024. Note that the data is compiled by all network companies on a reasonable endeavours basis, and in order to be produced on a monthly frequency is not assured to the standards of regulatory submission guidance.

- Overall, the growth in the queue was at its lowest since tracking began. and the rate of new applications continue to be high, with 726GW currently in the queue; 42GW being demand and 684GW from export and storage. In July 6.56GW of new connections offers were accepted.
- The queue continues to be dominated by renewables (353GW, 49% of the queue) and storage (234GW, 32% of the queue) far exceeding GB energy needs for net zero.
- Networks are connecting customers at a greater pace than ever before.
- There remains significant capacity that networks can accommodate without delay, including over 52.96GW of distribution connecting customers that have no dependency on transmission works, and 34.8GW of transmission connecting projects that have been offered connection dates in the next three years. Actual connection of these projects will be subject to customer timelines, milestone management, attrition rates and other factors (e.g. supply chain).
- However, the significant (and growing) queue continues to result in connection delays for customers:
  - 17% of transmission offers in July met the requested connection date, with an average difference between offered and requested connection date at transmission of 57 months for the month of June.
  - 69.43% of distribution capacity contracted is dependent on or being assessed for transmission reinforcements.

The voice of the networks

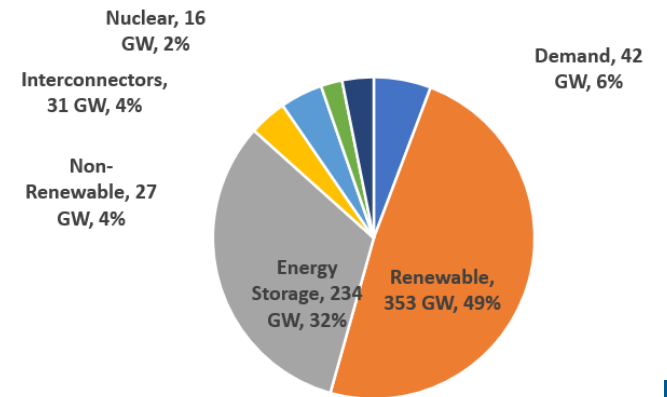
## Connections queue summary – July 2024

|  | July    | Transmission | Distribution | June    |
|--|---------|--------------|--------------|---------|
| Total Contracted Connections Offer (GW)                      | 726 GW  | 554 GW       | 172 GW       | 723 GW  |
| Total Contracted Connections Offer (GW) - (Export & Storage) | 684 GW  | 535 GW       | 149 GW       | 675 GW  |
| Total Contracted Connections Offer (GW) - Demand             | 42 GW   | 19 GW        | 23 GW        | 48 GW   |
| New Applications Received                                    | 33 GW   | 16 GW        | 17 GW        | 25 GW   |
| New Connections Offers Accepted                              | 6.56 GW | 3.73 GW      | 2.8 GW       | 8.89 GW |
| Total Connections Delivered                                  | 0.79 GW | 0.62 GW      | 0.17 GW      | 0.37 GW |

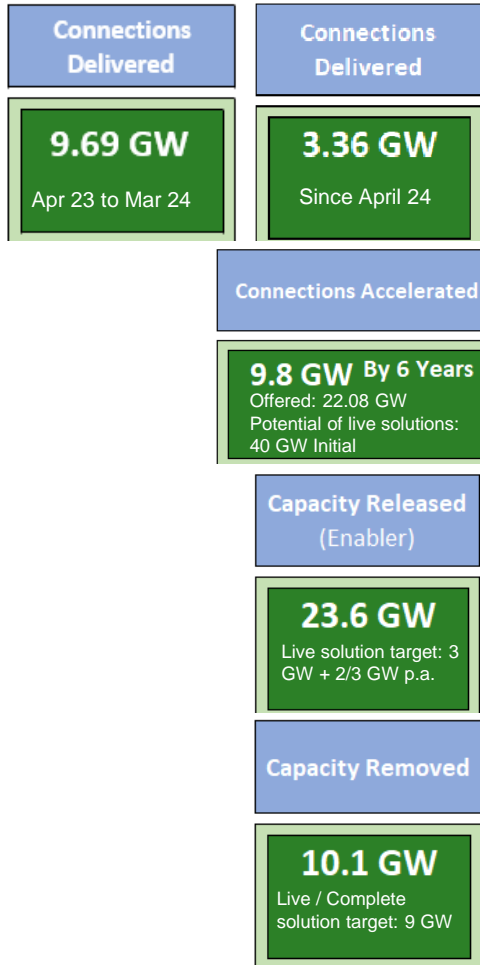
## Distribution queue by network works

|   | July      | July % of total |
|---|-----------|-----------------|
| No Reinforcement Dependencies & Distribution Reinforcement only (No Transmission Reinforcement) | 52.96 GW  | 30.85%          |
| Transmission Reinforcement only & Distribution and Transmission Reinforcement                   | 67.68 GW  | 39.43%          |
| Pending Decision on Reinforcement Dependency  | 51.01 GW  | 30%             |
| Total   | 171.66 GW | 100%            |

## T&D queue by customer/ technology type



# Benefit Tracker Dashboard Summary



**Connections Delivered** – All DNOs and TOs have connected nearly **9.7GW** of capacity within April 23 to March 24. With **3.36GW** already connected this year since April 24.

\*All connections recorded are >= 1MVA/MW, connections made below this threshold are not included in this total.

**Connections Accelerated** – Through actions set out in the Connections Action Plan, connections are being accelerated to connect to the networks this includes; Technical Limits, Non-firm interim offers for Storage at Transmission.

**Capacity released** – Through Distribution modelling assumptions for storage connections, capacity which would have previously been utilised by Battery Storage is now able to be utilised for other connections due to a change in access rights. This has seen over **50GW** released through offers being sent out and **23.6GW** of accepted offers.

**Capacity Removed** – Through ongoing robust queue management at both Transmission and Distribution, we have removed over **10GW** of “Zombie projects” from the queue.

# Q&A

Thank you