



NETWORKS CUSTOMER SEMINAR

LONDON

16TH OCTOBER 2023

AGENDA

09:00hr

Registration

09:25 – 09:30hr

Welcome and House keeping



Ali Harper

Scotland Connections Team Manager,
ESO

09:30 – 10:00hr

Opening Thoughts



Julian Leslie

Head of Networks and Chief Engineer,
ESO



David Wildash

Head of Customer Connections, ESO

An overview of key events, initiatives, challenges and successes in Connections from the last 6 months.

House Keeping

Fire Safety

No planned fire alarms today. Should the fire alarms sound, please exit the building and gather outside Freemasons' Hall on Great Queen street

Groups

The agenda given to you this AM shows you which group you are in – please follow your agenda.

Facilities

Restrooms are just outside the entrance to the Grand Hall and the Cornwall Room

Break

Coffee Breaks are at 11:15 – 11:35 in the Balmoral Room

Lunch

Lunch will be served at 12:30 – 13:30 in the Balmoral Room

WIFI

Username: ESO Password: October2023

Agenda

| | | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 9:25–9:30 | Welcome and House Keeping – Alison Harper | |
| 9:30-10:00 | Opening Thoughts – Julian Leslie & David Wildash | |
| 10:00-11:15 Deep Dive Sessions | <p>Room 1 – Group 1</p> <p>Tactical Initiatives – 5PP</p> <p>ENA SCG</p> <p>Portal</p> <p>Offshore Coordination Update</p> <p>Connections Update</p> <p>Compliance updates</p> <p>Q&A Panel</p> | <p>Room 2 – Group 2</p> <p>Ofgem CAP / Governance</p> <p>Connections Reform</p> |
| 11:15–11:35 | Coffee break | |
| 11:35-12:30 | <p>Panel – <i>Accelerating the Connections Journey</i></p> <p>David Wildash ESO, John Twomey NGET, Oliver Driscoll SSENT, Daniel Boorman DESNZ, Jack Presley Abbott Ofgem and Matthew White UKPN – ENA representative</p> | |
| 12:30-1:30 | Lunch | |
| 1:30-2:45 Deep Dive Sessions | <p>Room 1 – Group 2</p> <p>Tactical Initiatives – 5PP</p> <p>ENA SCG</p> <p>Portal</p> <p>Offshore Coordination Update</p> <p>Connections Update</p> <p>Compliance updates</p> <p>Q&A Panel</p> | <p>Room 2 – Group 1</p> <p>Ofgem CAP / Governance</p> <p>Connections Reform</p> |
| 3:00-3:15 | Goodbye and Closing Thoughts – David Wildash | |

We will be donating £4.00 for every attendee to St Mungo's



St Mungo's services support people experiencing homelessness across the South East and South West of England. They're working to end homelessness and rough sleeping, as well as influence the change to policy which impact the people affected.

<https://www.mungos.org/>

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An overview of key events, initiatives, challenges and successes in Connections from the last 6 months.



Julian Leslie

Head of Networks and Chief Engineer,
ESO

Welcome



David Wildash

Head of Customer Connections, ESO

Opening Thoughts

An overview of key events, initiatives, challenges and successes in Connections from the last 6 months.

AGENDA

Grand Hall

Group 1 - 10:00 – 11:15hr

Group 2 - 13:30 – 14:45hr

Cornwall Room

Group 2 - 10:00 – 11:15hr

Group 1 - 13:30 – 14:45hr

Connections Updates

Connections Reform & OFGEM & DESNZ Connections Action Plan



Grand Hall

Will Kirk-Wilson, Connection Strategy Manager, ESO

Matthew White, Head of Network Strategy, UKPN

Greg Hunt, GB Process Connections and Solutions Manager, ESO

Jenny Mills, Network Planning Manager, ESO

Nicola Bruce, Connections Operations Senior Manager, ESO

Biniam Haddish, Electricity Connections Compliance Manager, ESO



Connections Updates

- **ESO 5 Point Plan**
- **ENA SCG**
- **Connections Portal**
- **Offshore Co-ordination**
- **Connections Team Update**
- **Connections Compliance**
- **Q&A**



TACTICAL IMPROVEMENTS 5 POINT PLAN

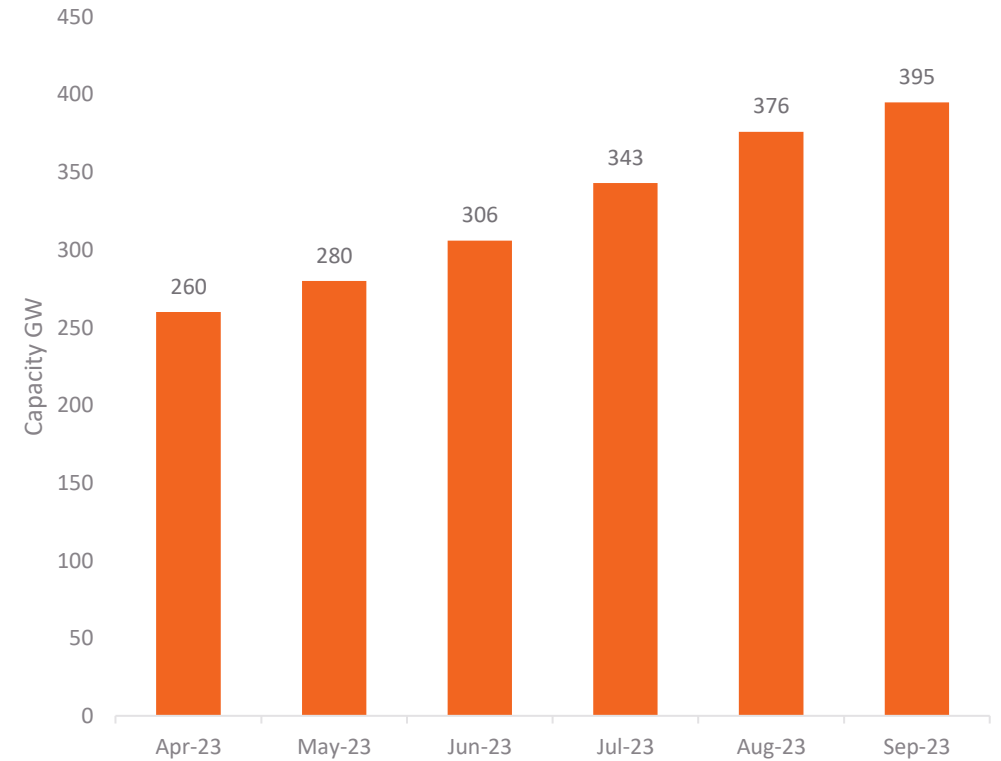
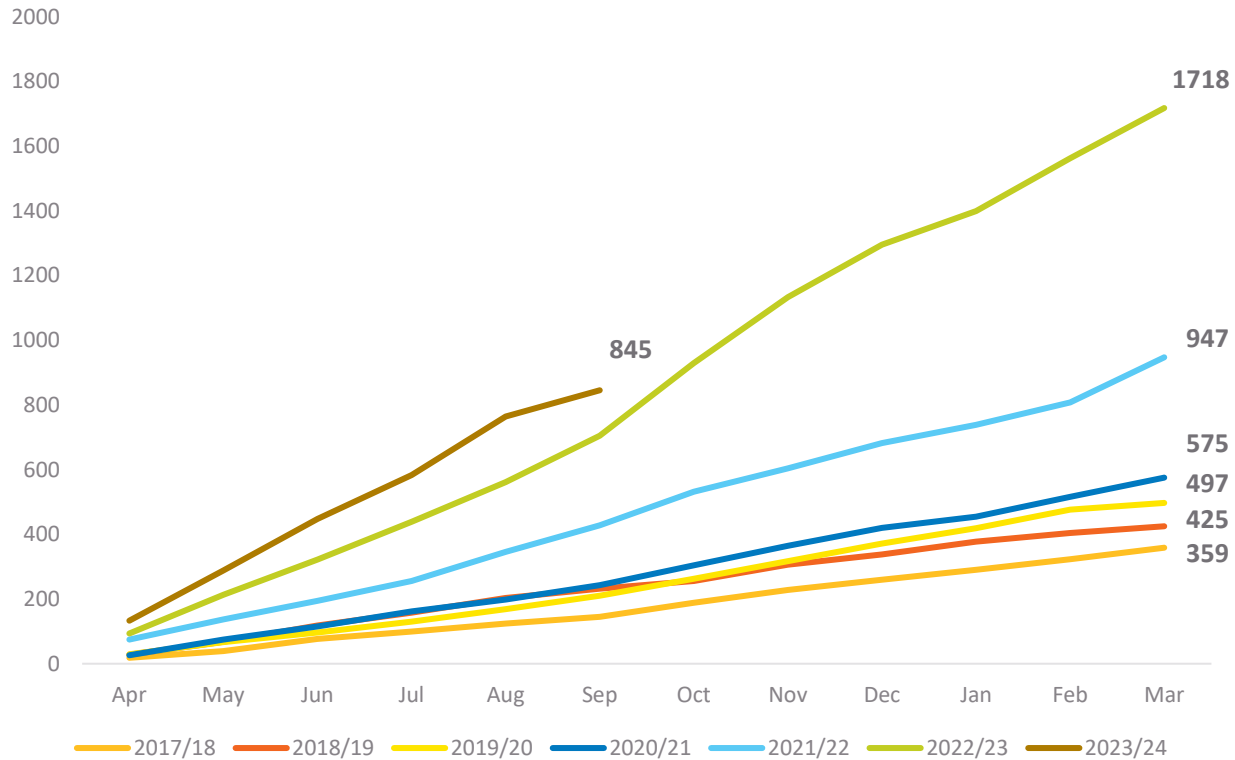
Will Kirk - Wilson

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.

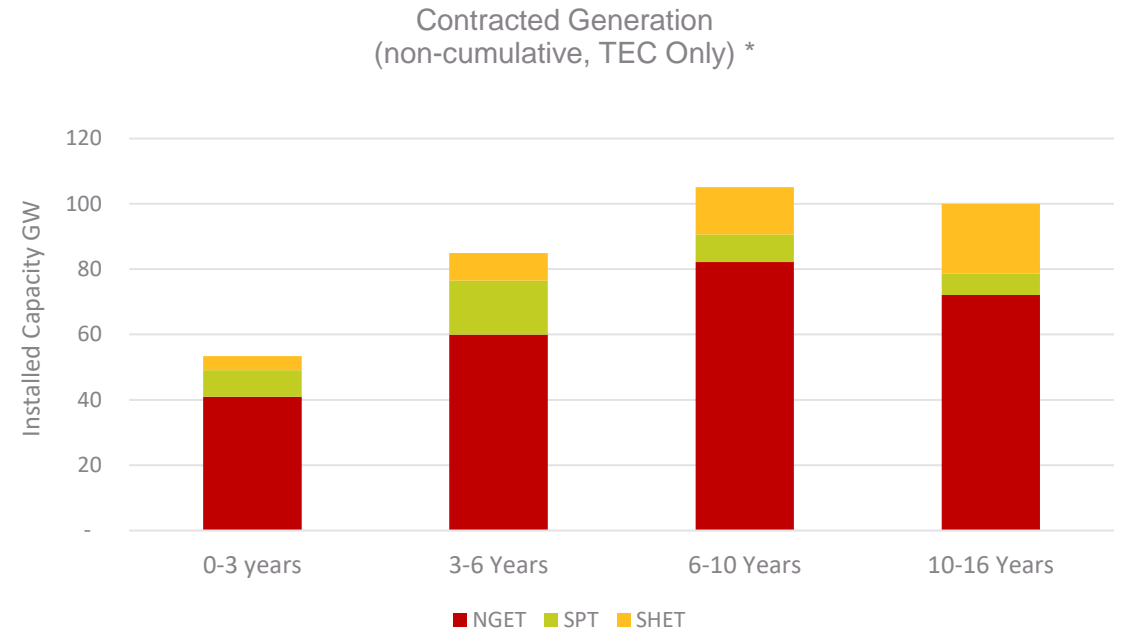
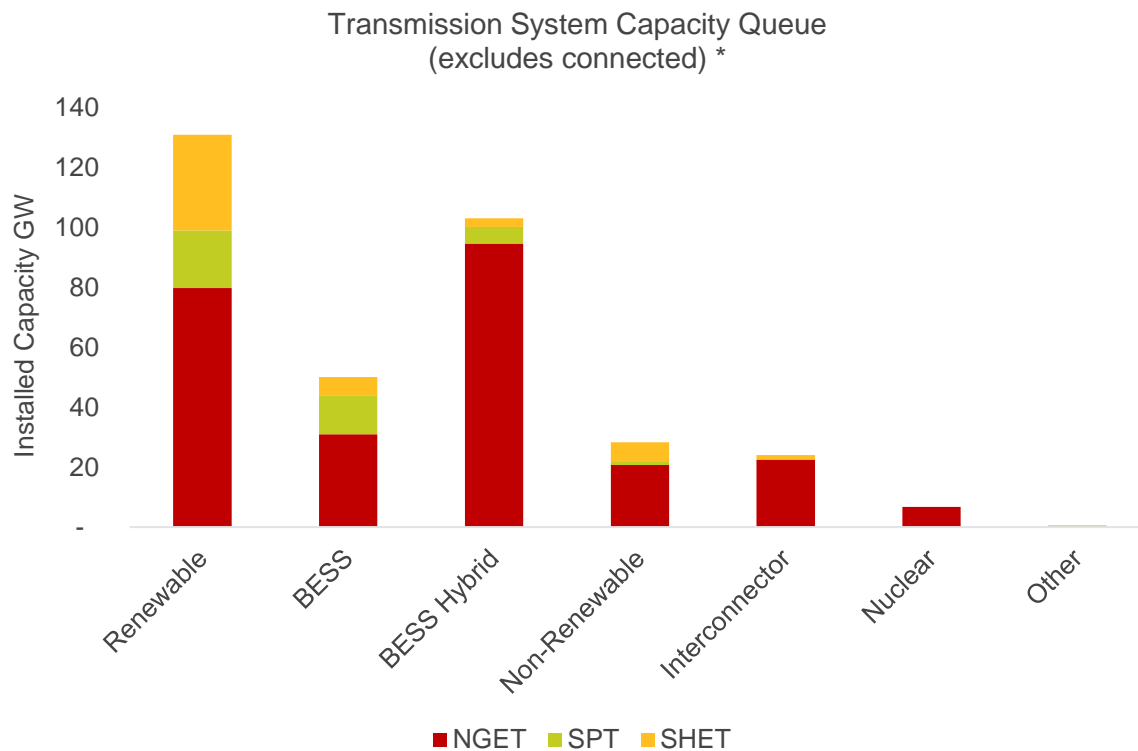
Licensed Applications Received



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. There is **113GW** 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



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 – we need to ensure customers still want to be a part of the amnesty
- 4 GW has dropped out
- Starting to terminate agreements for those that have confirmed



CPA Review and Treatment of Storage

Construction Planning Assumptions Review (CPA)

We are changing the assumptions about how many projects in the queue will actually be built to reflect a 30-40% connection rate

Treatment of Storage (BESS)

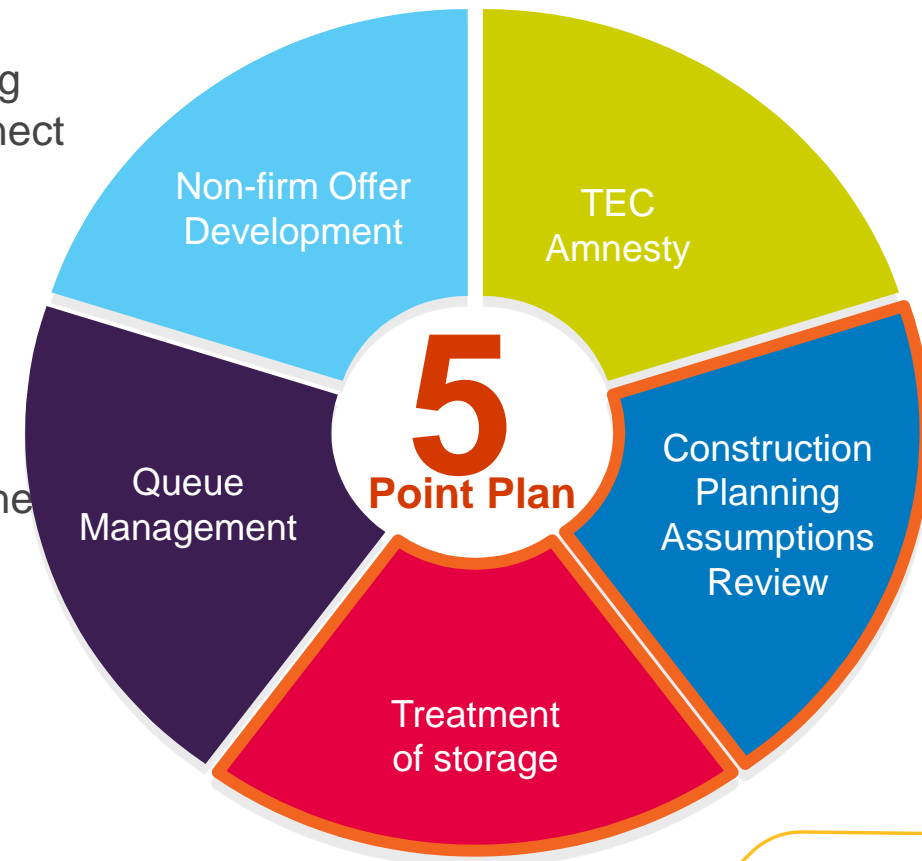
We are revising the way storage connections are modelled using insight resulting of a better understating of its behavior. These changes will allow storage to connect quicker and support unlocking more capacity to connect others.

Transmission Works Review (TWR)

Together the above 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.
- 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
- Awaiting Ofgem's decision – 10th November
- Currently developing a substantial guidance document and working with TO's on implementation



Non-firm Offer Development

Context

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

What has happened since then

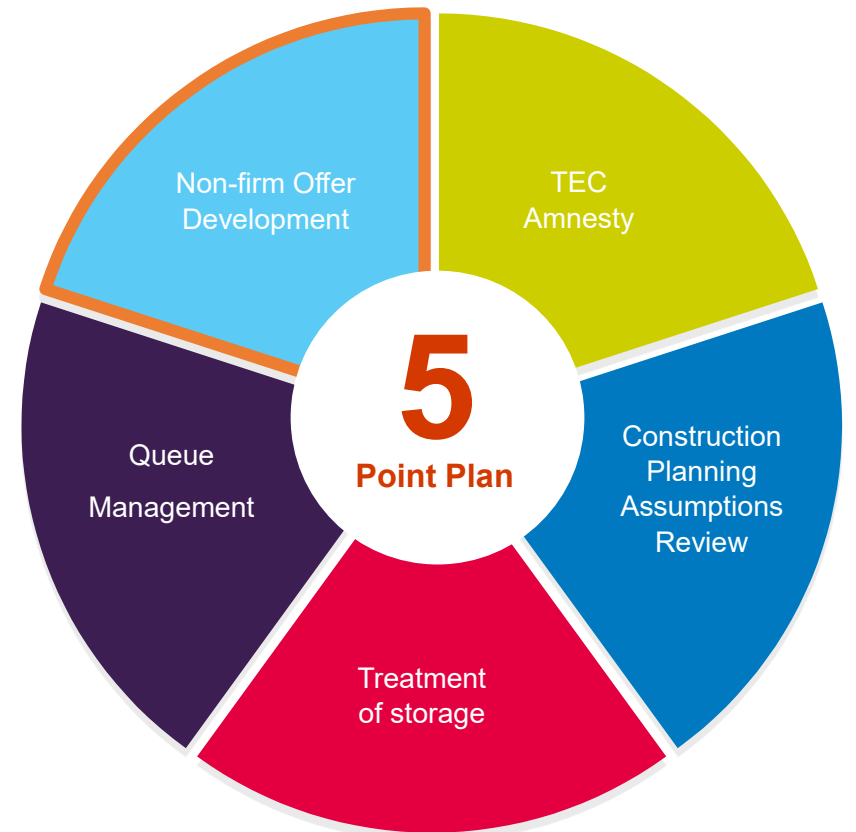
We have been working with the TOs and the DNOs (through the ENA's Strategic Connections Group) to develop the detail that underpins the policy. In addition we have analysed our EOI to understand the appetite for an accelerated non firm connection date for storage.

Update

We will imminently launch tranche 1. This will be for ~20 customers (~10GW). Sites have been selected by NGET on suitability criteria. Customers will receive offers shortly and will have 3 months to sign. During that time, they will need to assess the 'firmness' of their connection.

Tranche 1 is for E&W transmission.

Distributed connected storage is being progressed together with the ENA through their three point plan (point 2 – changing how transmission and distribution coordinate connections).



Strategic Connections Group

Improving the customer connections experience

Monday 16th October 2023



ENA Strategic Connections Group



Action 1: Managing the Distribution Queue

- **Spring clean.** Migrate pre 2017 offers to milestones contracts
- **First ready, first connected.** Prioritise 'shovel ready' connections



Action 2: Changing how T & D coordinate the queue

- **Clear & consistent boundaries.** Create technical boundaries.
- **Co-ordinating the queue.** Reallocate capacity.

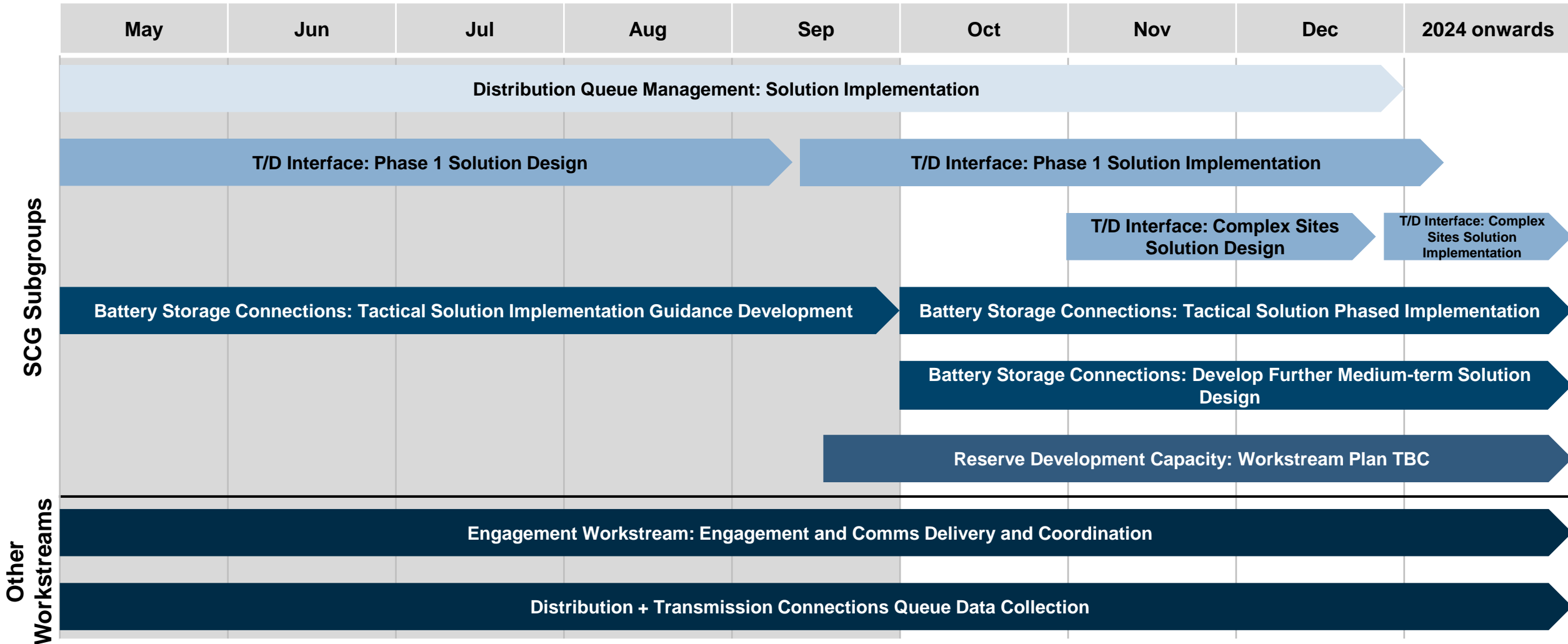


Action 3: Changing how storage connects to the network

- **Flex capacity.** Connect battery customers more quickly and improve the network's ability to manage capacity

Delivered in coordination with NG ESO's Connections Reform & 5 Point Plan at transmission level

SCG Delivery Plan



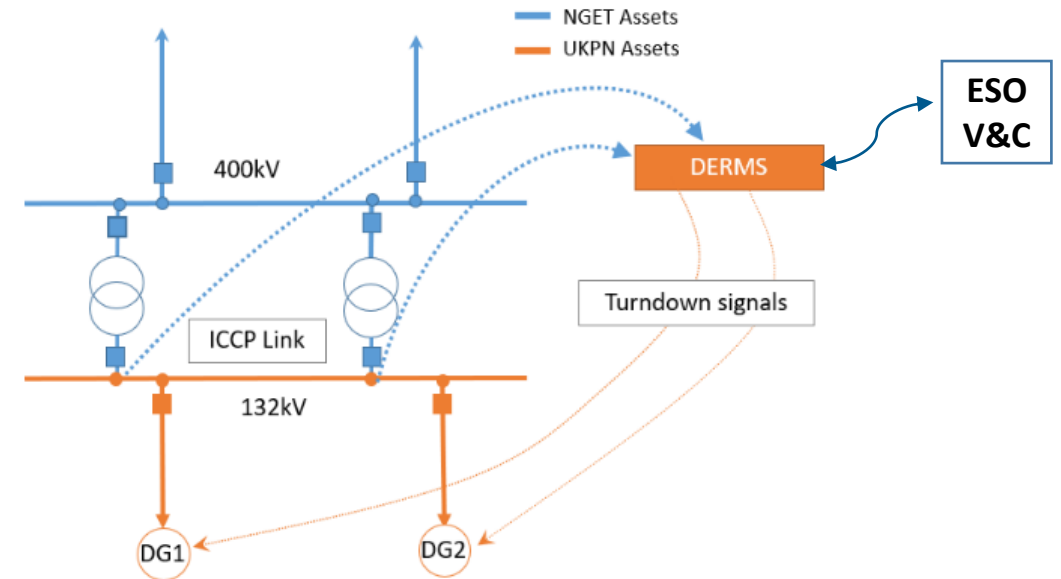
Changing how T&D Coordinate the Queue

➤ What changes are we making?

- Setting **technical limits at GSPs** where customers are currently held off by transmission reinforcement works
- Providing customers on the **distribution network with an interim non-firm connection** arrangement, which is curtailable and uncompensated. Enabling more agile and shovel ready customers to connect earlier, thereby releasing capacity that is not currently being utilised
- Making this available in discrete phases based on agreed principles and pre-requisites

➤ Visibility and Control

- DNOs will provide **visibility and control** to the ESO to facilitate a change to limits where specific system issues are forecast to impose a constraint on available capacity and additional actions are required to maintain system security

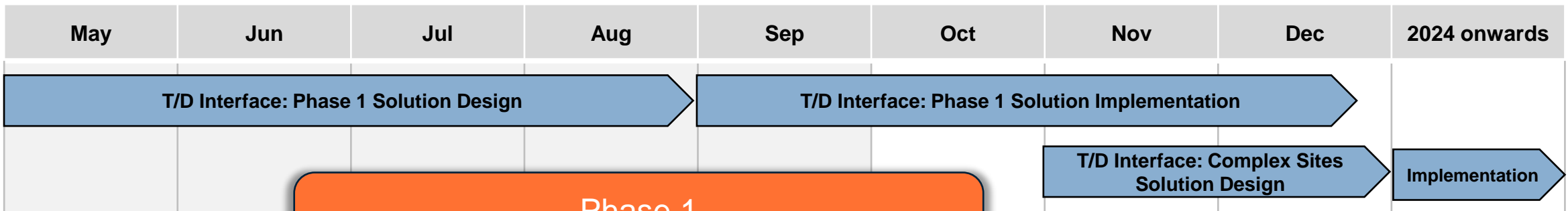


T/D Interactive Queue Enhancement Progress Update

Workstream Objective: Create clear technical boundaries between Transmission & Distribution, to better manage the distribution connection queue and accelerate customers with projects that are ready to connect and can accept an interim flexible connection.

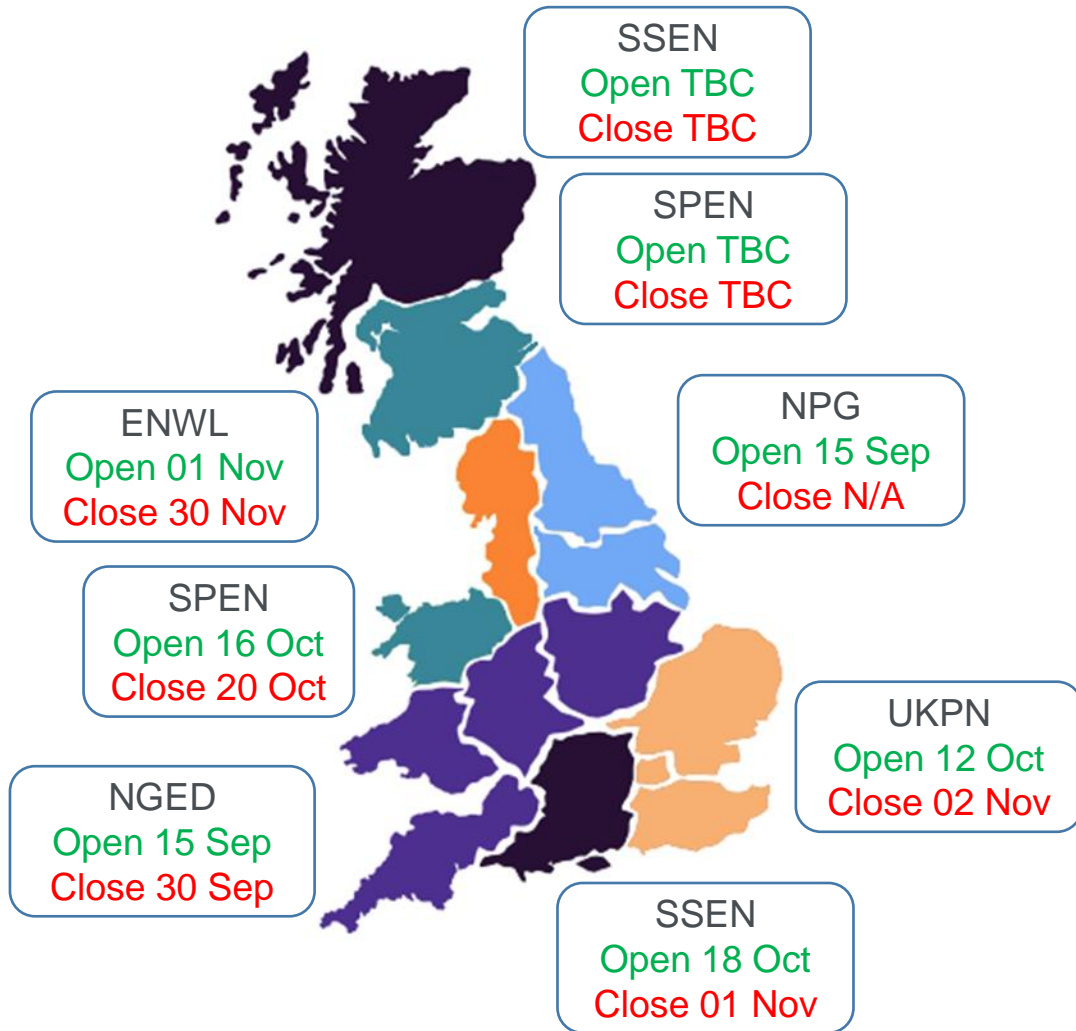
| Key Progress: | |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Designed technical methodology for setting technical limits at Grid Supply Points, working collaboratively with DNOs, TOs and NGENSO. |
| 2. | Commenced implementation for 52 priority Phase 1A sites, with the expected benefit of 18 GW / 411 customers. |
| 3. | Commenced implementation for 20 priority Phase 1B sites, with the expected benefit of 12 GW / 339 customers. |

| Upcoming Plans: | |
|-----------------|---------------------------------------------------------------------------------------------------------|
| 1. | Develop supporting principles including clear Visibility and Control rules |
| 2. | Design and implement methodology for Phase 2 sites and complex sites (multiple connections at a GSP) |
| 3. | DNOs actively engaging with customers to release EOIs for phase 1 sites and local implementation detail |



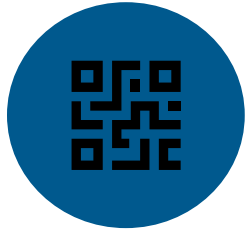
Phase 1
30GW across 72 GSPs, 750 customers!

DNO Expressions of Interest for Phase 1a



- DNOs are getting on with releasing the latent capacity present within their existing networks
- EOIs are being rolled out across GB initially targeting contracted parties constrained by transmission reinforcement
- Individual DNO webinars underway/planned
- **Phase 1A 18GW** is being released (12GW Phase 1b to follow), individual DNOs will be in touch with customers able to be accelerated
- Some connections could be accelerated by up to 10 years!

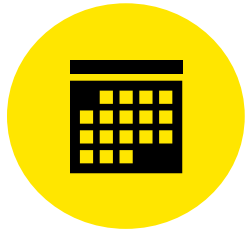
Potential Changes in Customers' Variation Offers



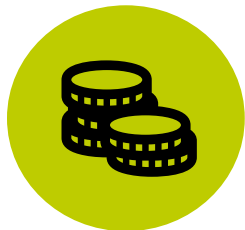
Terms for Technical Limits – inclusion of DERMS type solution at the boundary to control customers real-time



Curtailment report to estimate expected level of curtailment due to transmission constraint

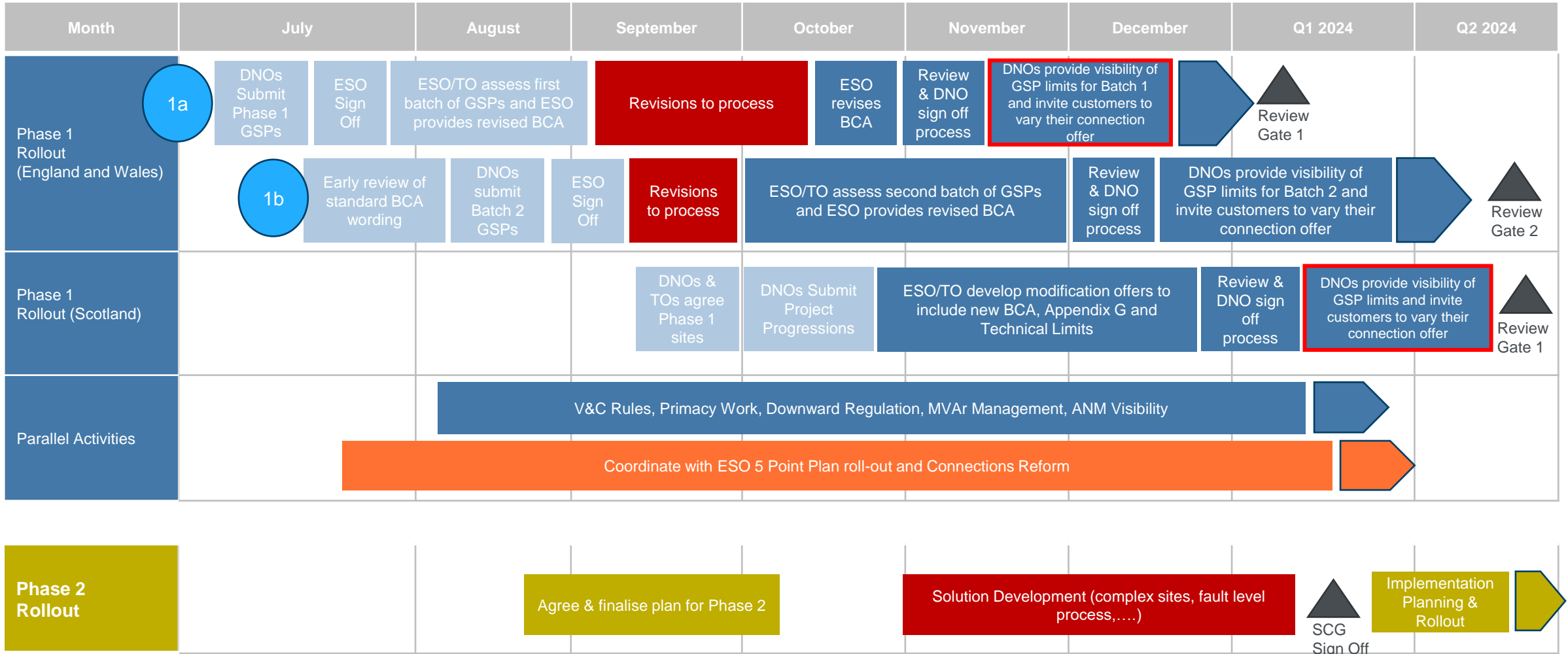


Updated milestones in line with new non-firm connection dates



Updated costs from original offer (could include costs for installation of new DERMS type equipment if not previously included in offer)

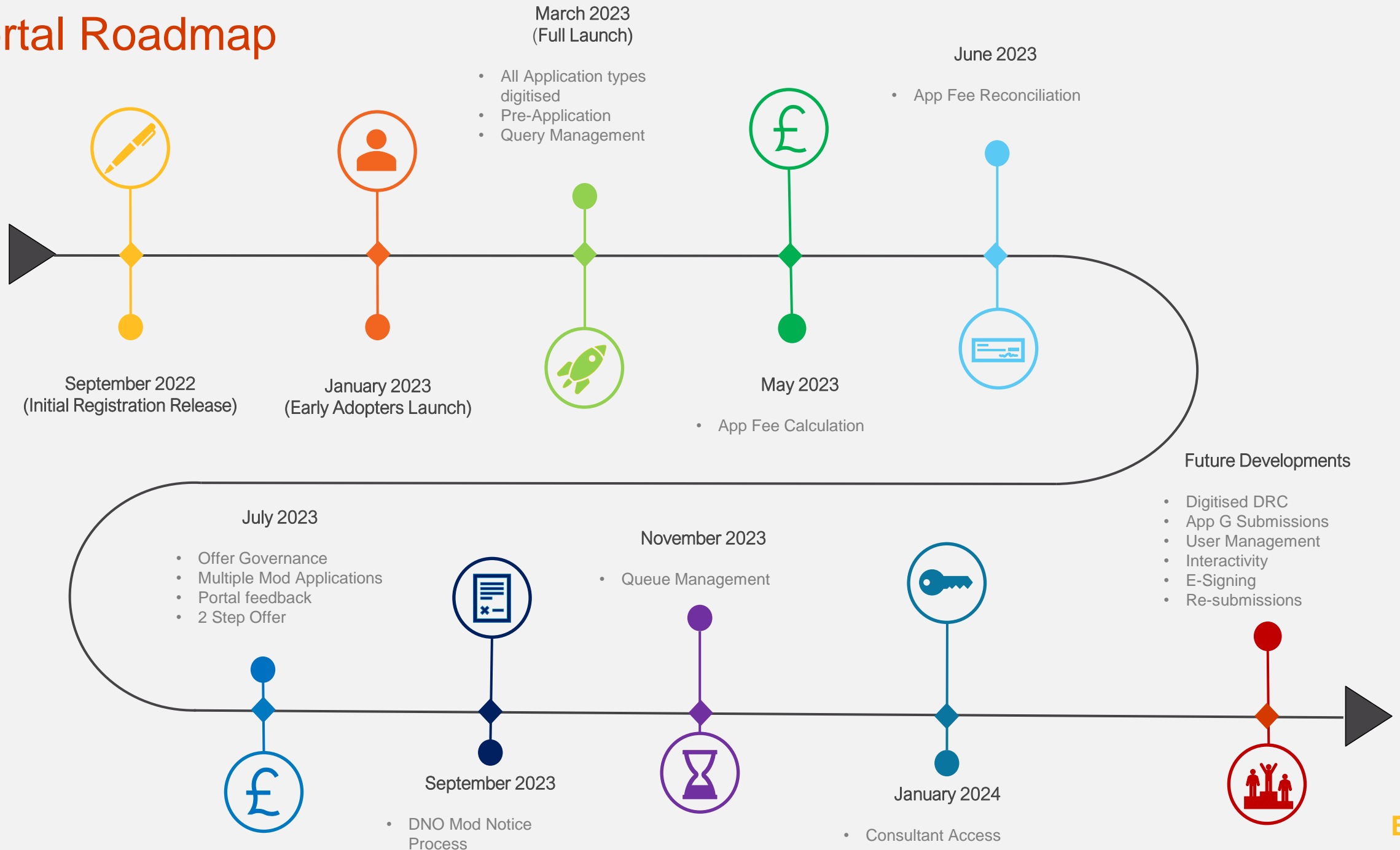
Phase 1 Implementation Plan & Future Work



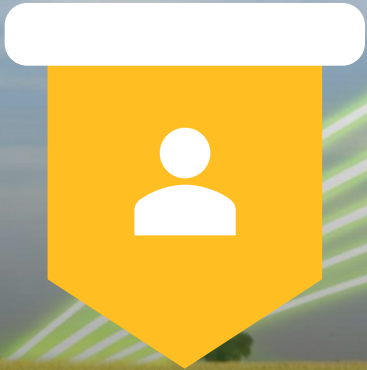
ESO CONNECTIONS PORTAL

Greg Hunt

Portal Roadmap



What impact has the Portal had?



Active Users

600

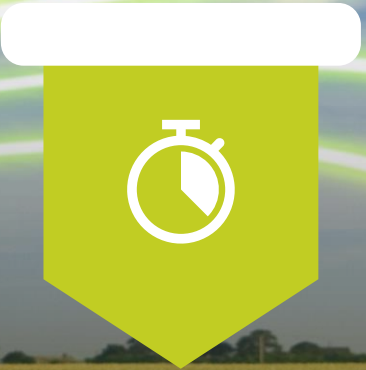
Mix of Super Users and Standard Users



Queries

700

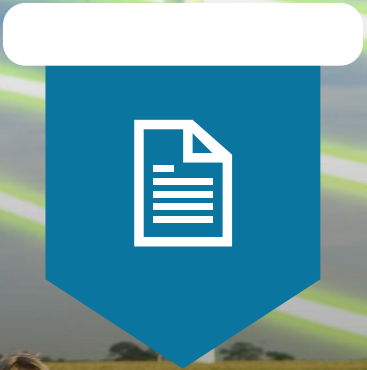
Received via new Portal functionality



Query Closure

4 days

Average days closure from query being raised beating SLA of D+5



Applications

1750

Variety of application types, now including multiple applications against GSP



Clock-start

20%

Improvement on Clock-start achieved dates - based on last years figures pre-Portal

Stakeholder Engagement

Delivered Q1/2 2023

Since the project started in 2021 we have been listening to Stakeholder feedback to help build and further improve the Portal.

Stakeholder feedback has specifically driven a number of features in the Portal:

- Multiple applications in flight at a single GSP
- Online Query Management
- DNO Mod Notice process
- Ability to increase number of Users in an account

In Development Q3 - 2023

Items prioritised by you for the next phase of delivery:

- Linking Query case number with Application reference for better tracking
- Visibility of Pre-App Meeting Date and triggering of email notification
- Surfacing more key dates on Portal including Clockstart
- Addition of Project name in Mod Notices for better clarity
- Word count addition on free text in Portal

Pipeline Q3/Q4 – 23/24

Reviewing and prioritising next set of features drawn from our Stakeholder workshops held in September.

Further workshops planned to test and feedback on new functionality.

Next Steps 2024

Larger Epics released throughout the year with opportunity to release smaller Stakeholder driven features at the same time.

Regular Stakeholder workshops to ensure priorities are aligned and ability for Stakeholders to suggest further enhancements.



OFFSHORE CO-ORDINATION

Jenny Mills

ESO Offshore Coordination Update

HND

- Recommendations published July 2022
- Detailed Network Design
- Infrastructure Delivery forums
- Impact Assessment Process

HND 2 (FUE)

- Scotwind recommendations will be included in TCSNP publication
- INTOG designs underway
- Round 5 (Celtic Sea) designs in step with Crown Estate process

Future of Network Planning

- Transitional Centralised Strategic Network Plan (TCSNP)
- Centralised Strategic Network Plan
- Strategic Spatial Energy Plan

CONNECTIONS TEAM UPDATE

Nicola Bruce



Nicola Bruce
Head of Connections Operations

This role has a huge customer focus, and will look to drive forward greater customer service by delivering on our existing processes, helping build stronger relationships with our TO delivery partners and meeting existing licence obligations.



Robyn Jenkins
Head of Connections Change Delivery

Accountability for delivery of the Connections Portal Project and managing the coordination and delivery of all reform activities and creating new processes for the Connections operations team. This will include delivering on the 5 point plan commitments.



James Norman
Head of Connections Strategy

Delivering the next level of design of the reform, while thinking about the longer term strategic direction of the connections process and related policy development and how it interacts with other major reform programmes across the ESO. Accountable for whole system connection design and policy, including thinking on connection competition.




David Wildash
Head of
Connections



Nicola Bruce
Head of
Connections
Operations



James Norman
Head of
Connections
Strategy



Robyn Jenkins
Head of
Connections
Change Delivery



Ali Harper
Scotland Manager



Peter Sipawa
Offshore Manager



Michael Oxenham
Connections
Design Team
Manager



Bec Thornton
Offshore Hybrid
Assets Manager



Greg Hunt
GBCPS Manager



Laura Henry
Policy & Change
Manager



Biniam Haddish
Compliance Team
Manager



Rachel Thomas
Demand Manager



Will Kirk-Wilson
Strategy Manager

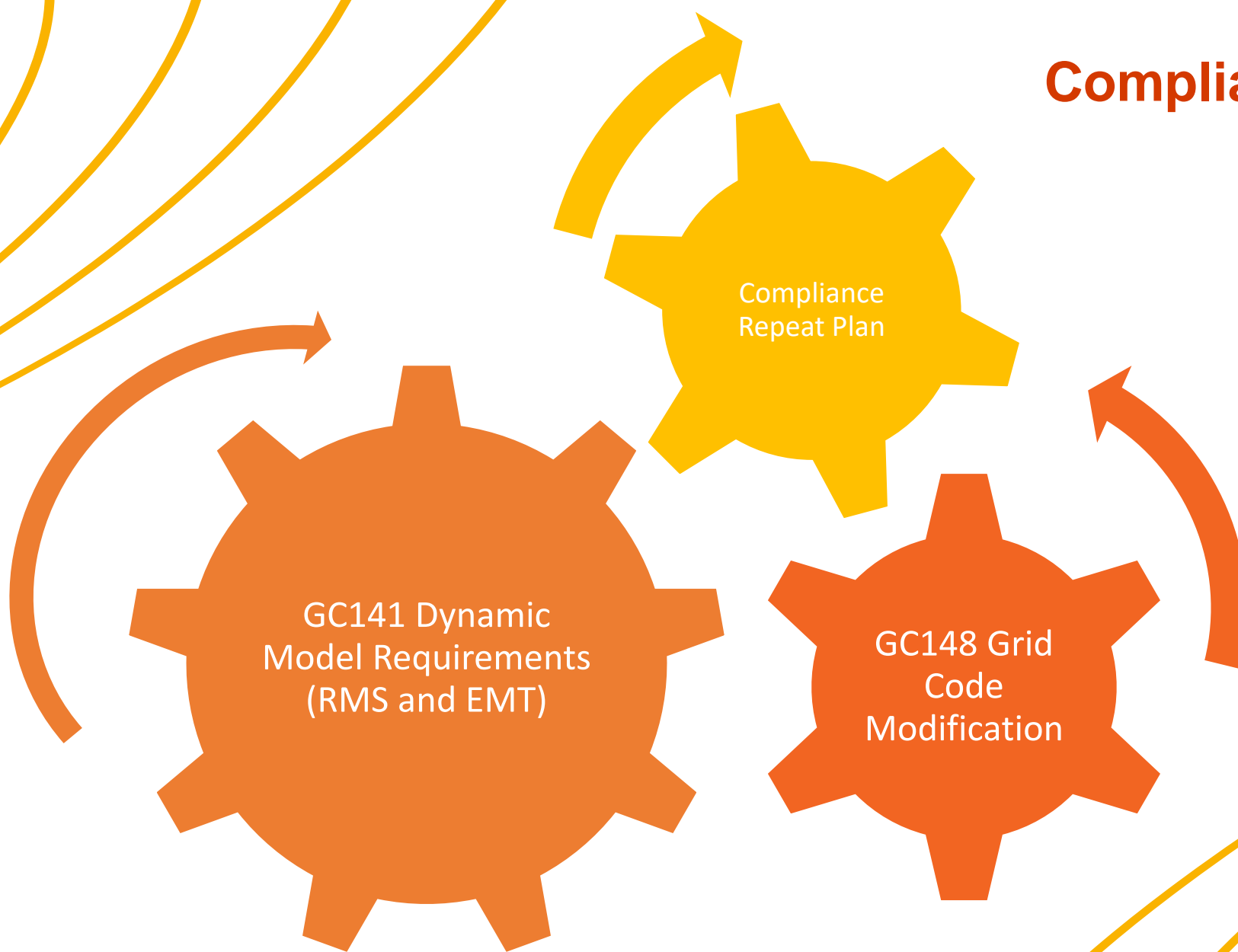


Joseph Martin
E&W Onshore
Manager

ESO COMPLIANCE UPDATES

Biniam Haddish

Compliance update



GC141 Dynamic
Model Requirements
(RMS and EMT)

GC148 Grid
Code
Modification

Compliance
Repeat Plan

CONNECTIONS Q&A



BREAK

Tea and coffee in the **BALMORAL ROOM**

Please submit your questions to **Sli.do**

for the Q&A:

#1448811

Please name panel member if specific question

CONNECTIONS REFORM

James Norman



Cornwall Room

James Norman, Head of Connections Strategy, ESO

Paul Mullen, Senior Connections Design Lead, ESO

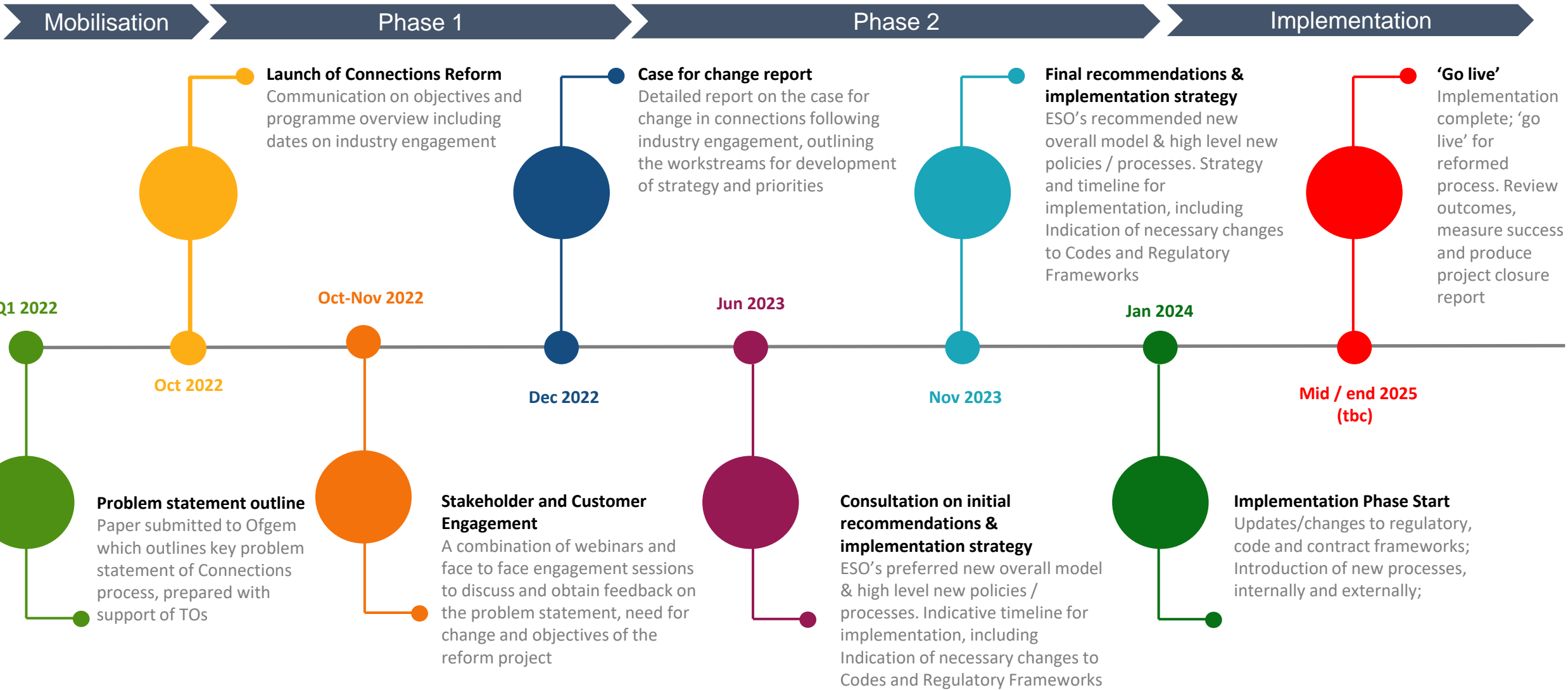
Jack Presley Abbott, Deputy Director – Market Design, Ofgem

Daniel Boorman, Head of Onshore Electricity Networks, DESNZ



Connections Reform & OFGEM & DESNZ Connections Action Plan

Overview of Connections Reform programme



ESO view of what the future of grid connections needs to look like:

Able to respond to future grid pressures

Benefits both demand and generation customers

Enables network to be built ahead of need

Facilitates a coordinated network design

First ready first connected

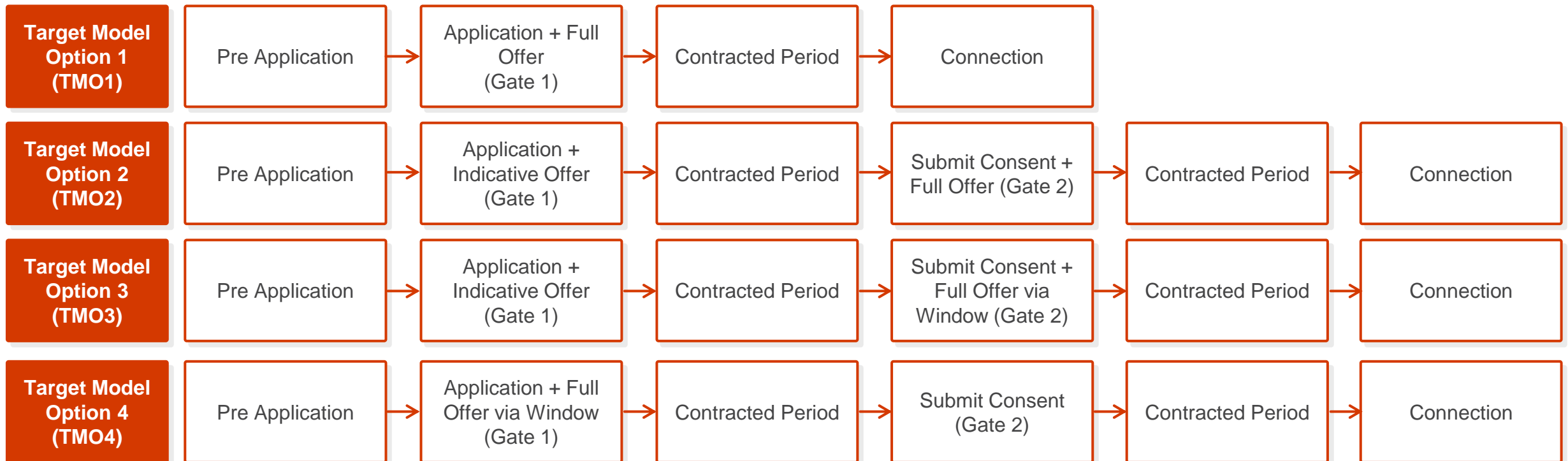


Saves consumers money

The Target Model Options

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

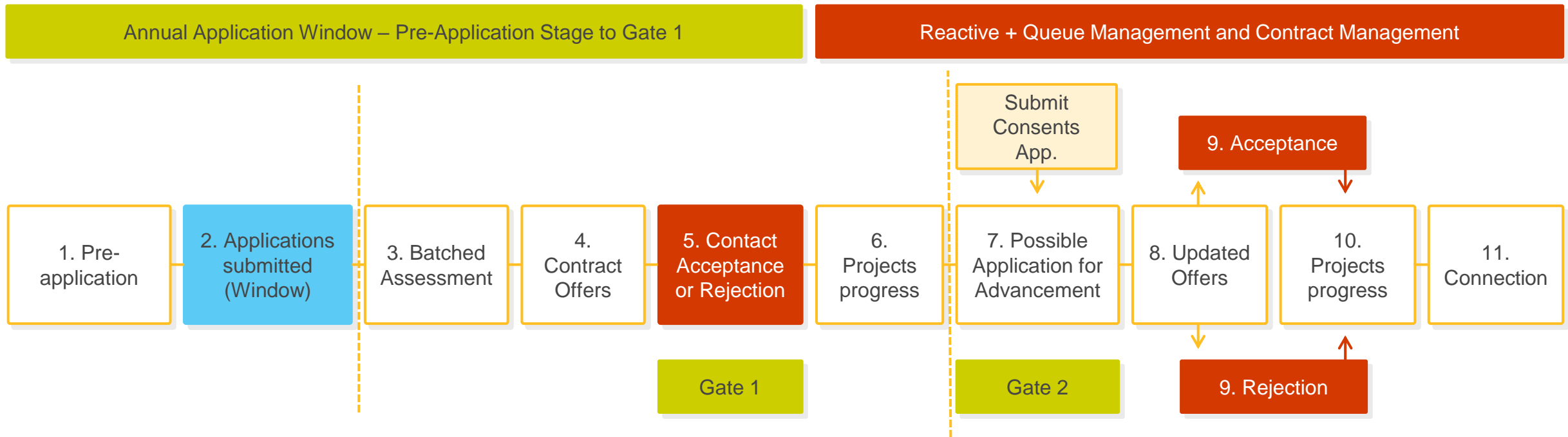
- Each TMO consists of a core process and a selection of changes from **18** add-on categories.
- Other core processes were considered but not progressed (e.g. more / later gates and multiple window processes).



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.



Connections Reform Phase 2 Consultation Responses

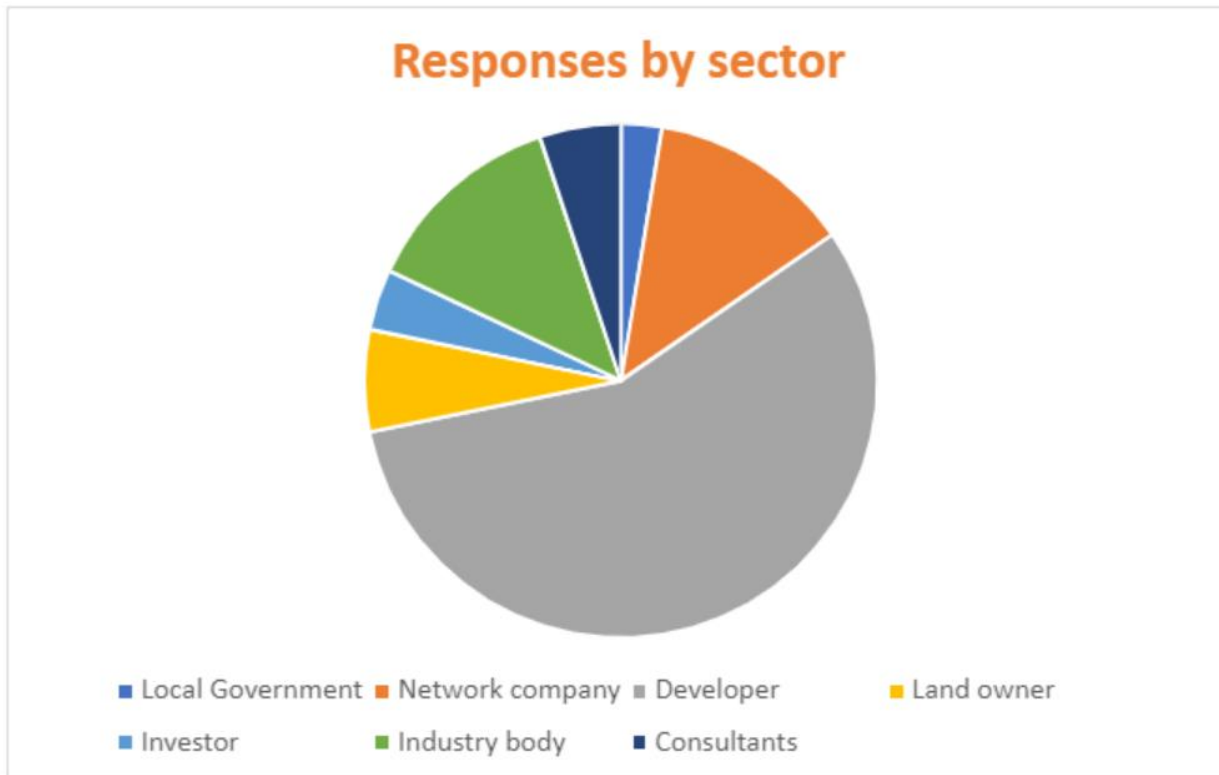
We consulted between 13 June 2023 and 28 July 2023 and received 78 consultation responses from a broad range of stakeholders (see *below*) and the non-confidential responses are published here

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.



Connections Reform Phase 2 Consultation Responses

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.

Connections Reform Phase 2 Consultation Responses

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.

Connections Reform Phase 2 Consultation Response

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

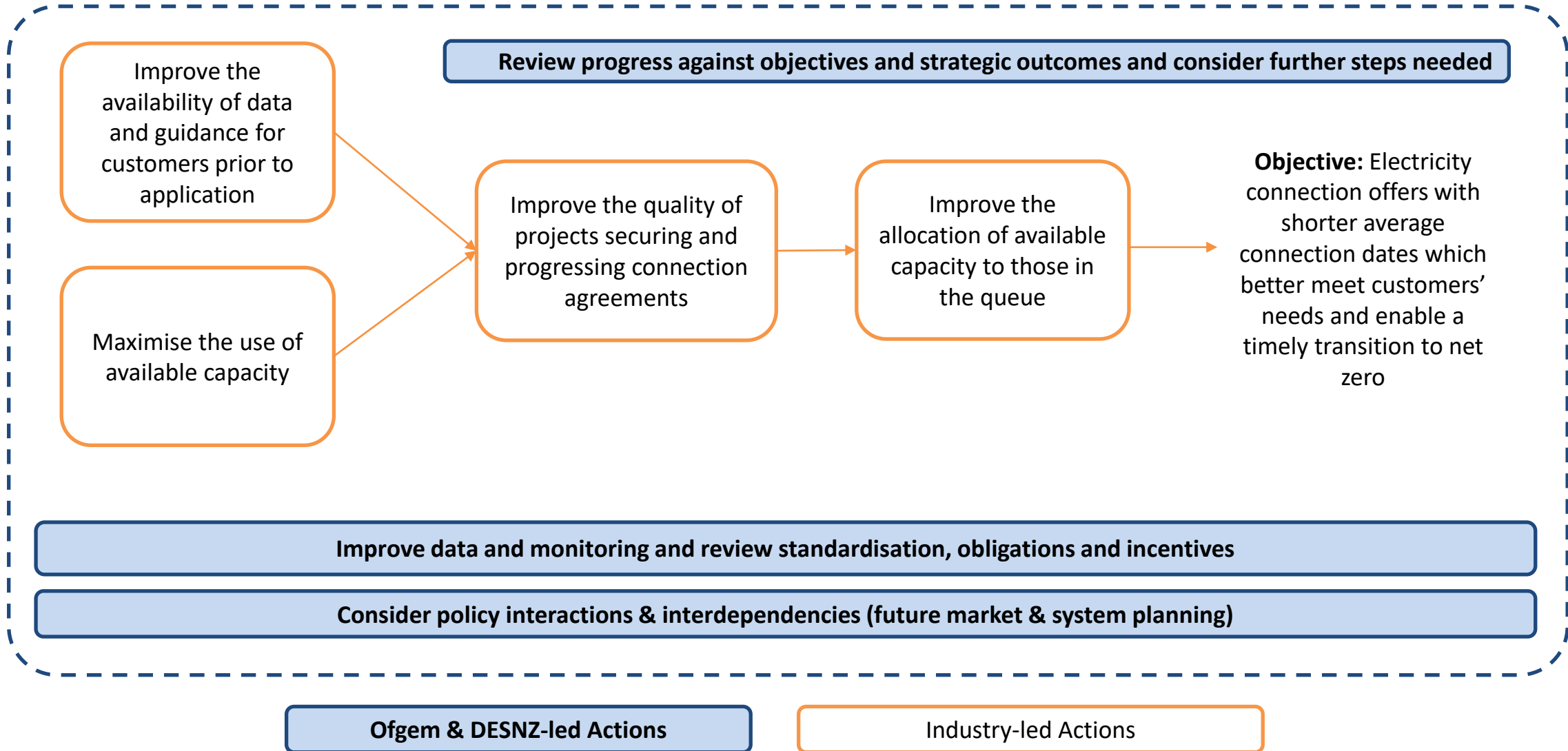
We have reviewed the consultation responses and will continue to further consider the feedback over the next few weeks to refine our proposals prior to making final recommendations in November 2023.

We will be taking updates to our external governance groups (DPEG and Steering Group) over the coming weeks.



Email us

Box.connectionsreform@nationalgrideso.com



AGENDA – Grand Hall

11:15 – 11:35hr

11:35 – 12:30hr

Nicola Bruce, Head of Connection Operations, ESO

David Wildash, Head of Customer Connections, ESO

Oliver Driscoll, Head of Customer Experience, SSENT

Daniel Boorman, Head of Onshore Electricity Networks, DESNZ

Jack Presley Abbott, Deputy Director – Market Design, Ofgem

Matthew White, Head of Network Strategy representing ENA & UKPN

John Twomey, Director of Customer Connections, NGET

12:30 – 13:30hr



Coffee Break

Panel Discussion

Accelerating the Connections Journey Q&A

Lunch

BREAK

Tea and coffee in the **BALMORAL ROOM**

Please submit your questions to **Sli.do**

for the Q&A:

#1448811

Please name panel member if specific question

PANEL DISCUSSION



PANEL

Accelerating the Connections Journey

Slido Code: #1448811

Nicola Bruce, Head of Connection Operations, ESO

David Wildash, Head of Customer Connections, ESO

Oliver Driscoll, Head of Customer Experience, SSENT

Daniel Boorman, Head of Onshore Electricity Networks, DESNZ

Jack Presley Abbott, Deputy Director – Market Design, Ofgem

Matthew White, Head of Network Strategy representing ENA & UKPN

John Twomey, Director of Customer Connections, NGET



LUNCH

Served in the BALMORAL ROOM

NEXT SESSION TO START AT 13:30

AGENDA

Grand Hall

Group 1 - 10:00 – 11:15hr

Group 2 - 13:30 – 14:45hr

Cornwall Room

Group 2 - 10:00 – 11:15hr

Group 1 - 13:30 – 14:45hr

Connections Updates

Connections Reform & OFGEM & DESNZ Connections Action Plan



Grand Hall

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Biniam Haddish, Electricity Connections Compliance Manager, ESO



Connections Updates

- **ESO 5 Point Plan**
- **ENA SCG**
- **Connections Portal**
- **Offshore Co-ordination**
- **Connections Team Update**
- **Connections Compliance**
- **Q&A**



TACTICAL IMPROVEMENTS 5 POINT PLAN

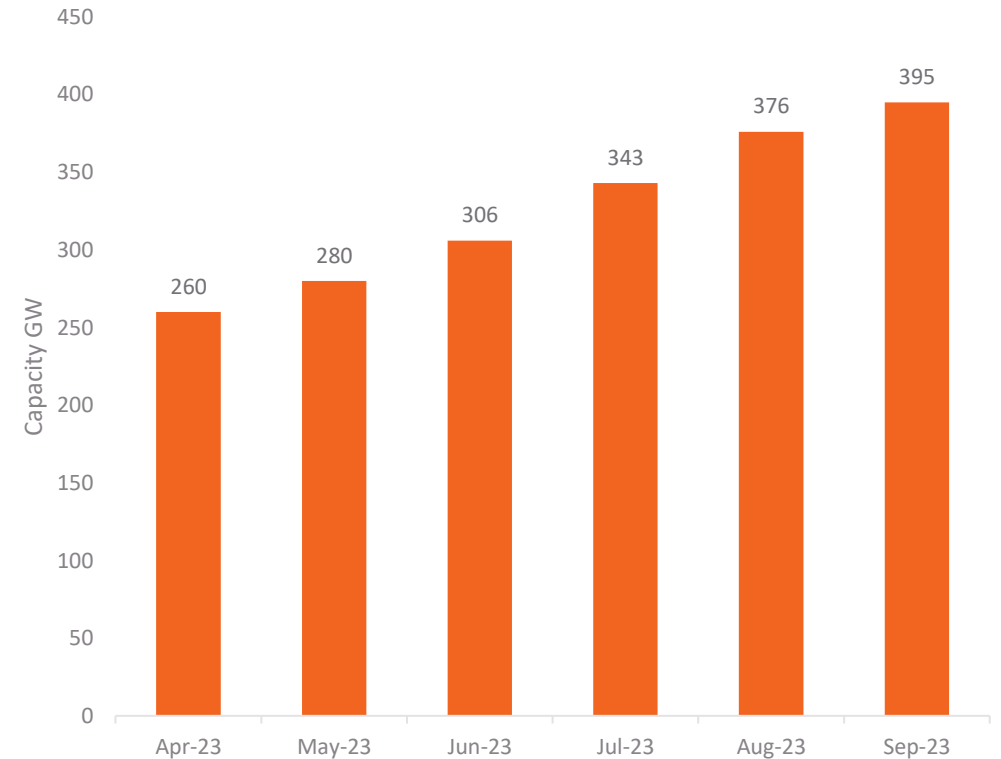
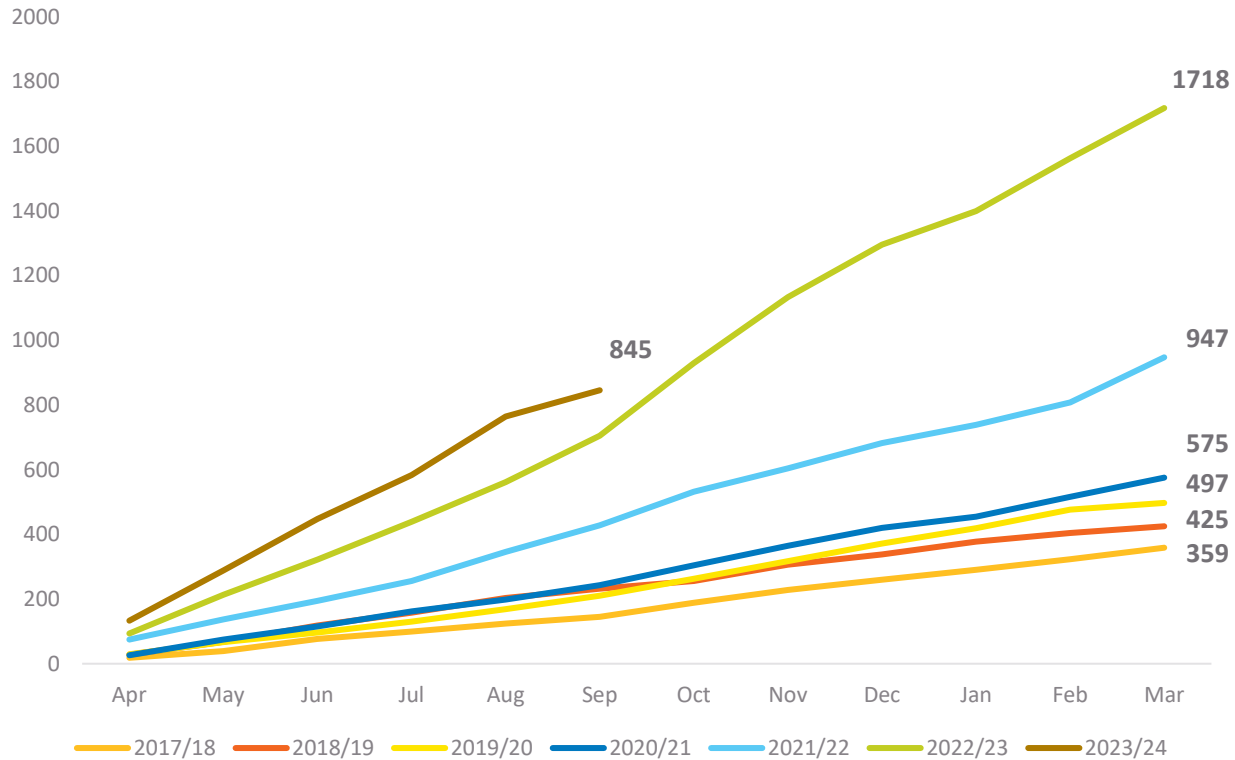
Will Kirk - Wilson

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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.

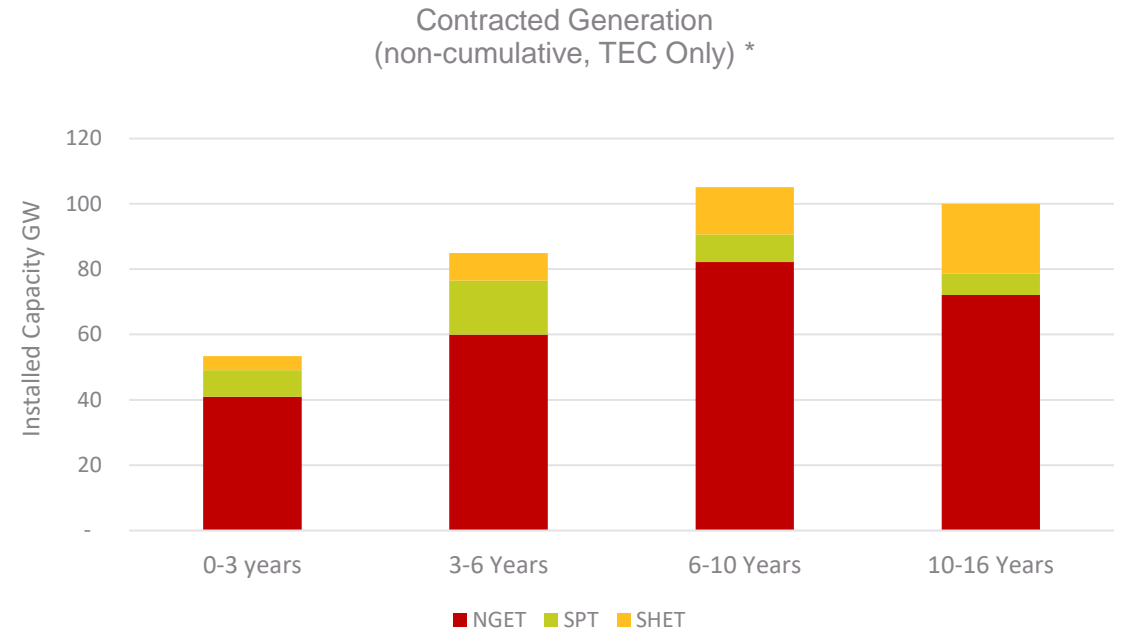
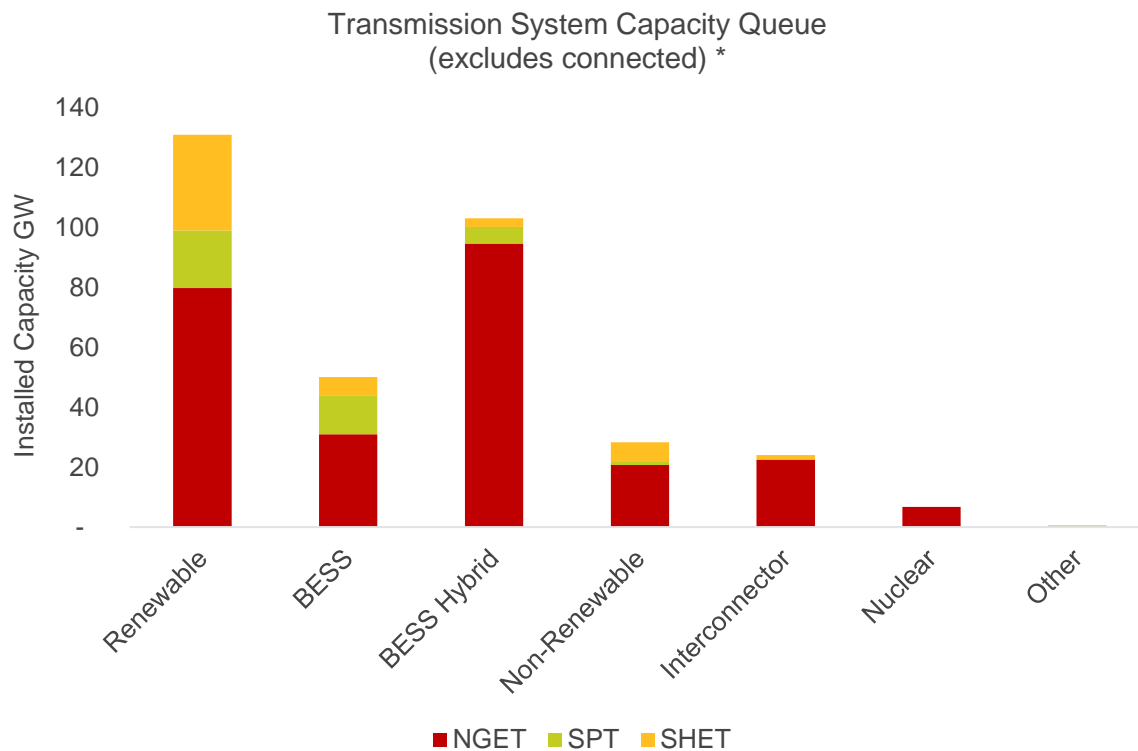
Licensed Applications Received



Connections Queue

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

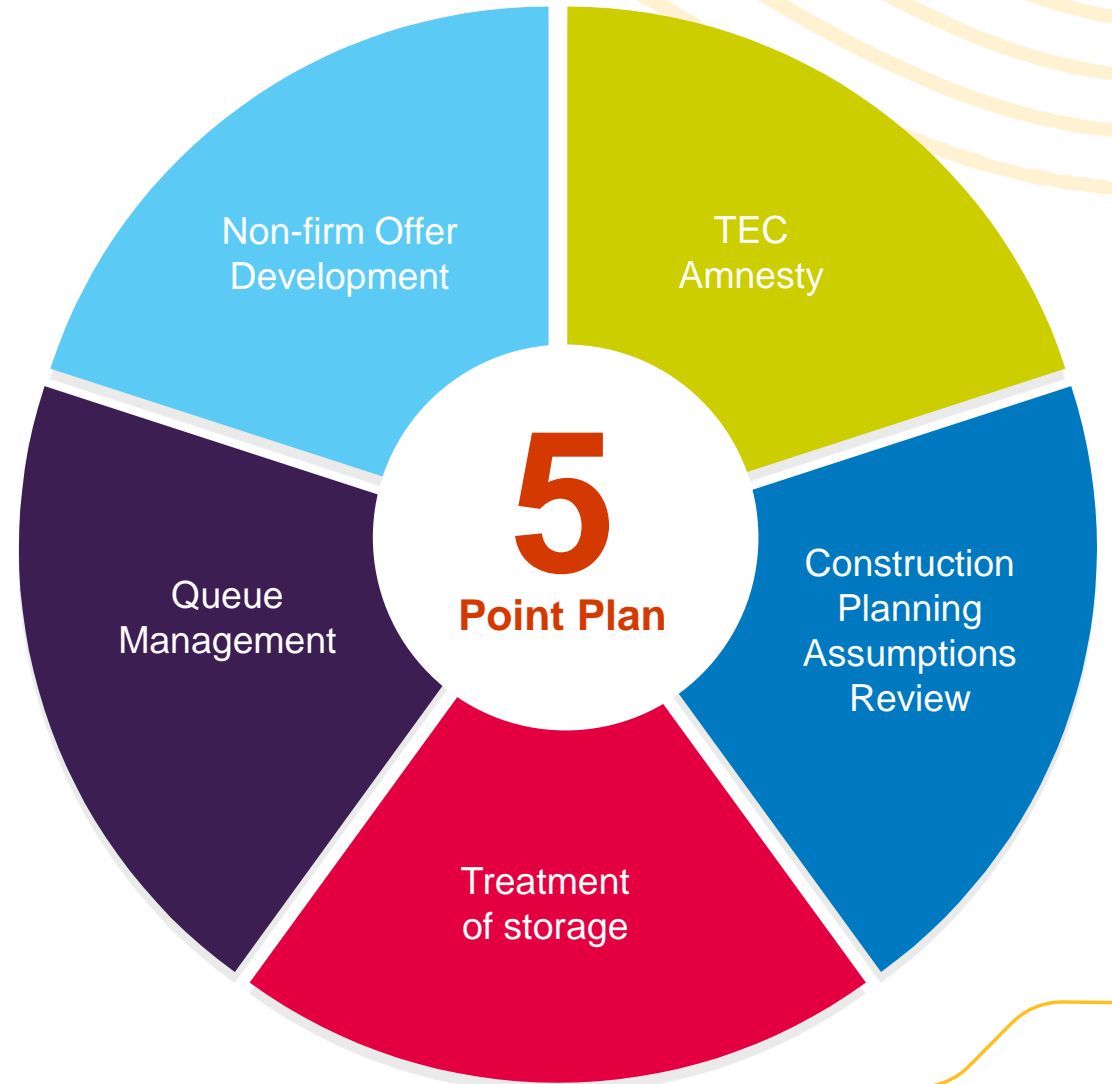
Over **395GW** of generation projects are currently seeking to connect to the electricity transmission system, yet our data shows that up to **70%** of those projects may never be built. There is **113GW** currently in the distribution queue.



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



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 – we need to ensure customers still want to be a part of the amnesty
- 4 GW has dropped out
- Starting to terminate agreements for those that have confirmed



CPA Review and Treatment of Storage

Construction Planning Assumptions Review (CPA)

We are changing the assumptions about how many projects in the queue will actually be built to reflect a 30-40% connection rate

Treatment of Storage (BESS)

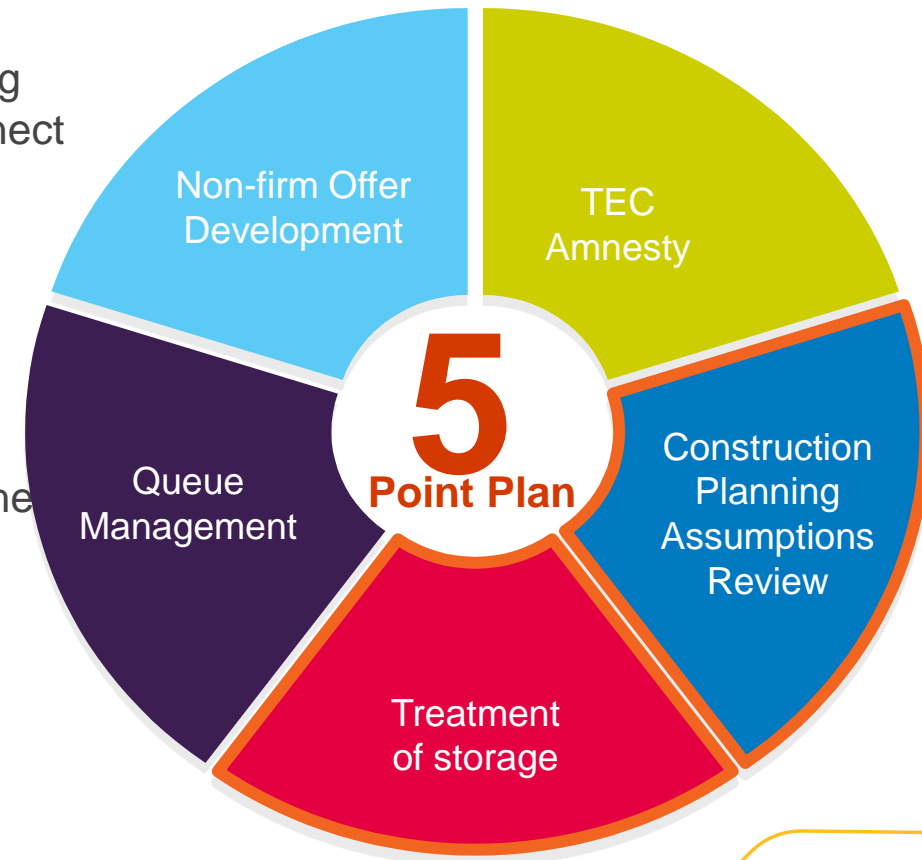
We are revising the way storage connections are modelled using insight resulting of a better understating of its behavior. These changes will allow storage to connect quicker and support unlocking more capacity to connect others.

Transmission Works Review (TWR)

Together the above 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.
- 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
- Awaiting Ofgem's decision – 10th November
- Currently developing a substantial guidance document and working with TO's on implementation



Non-firm Offer Development

Context

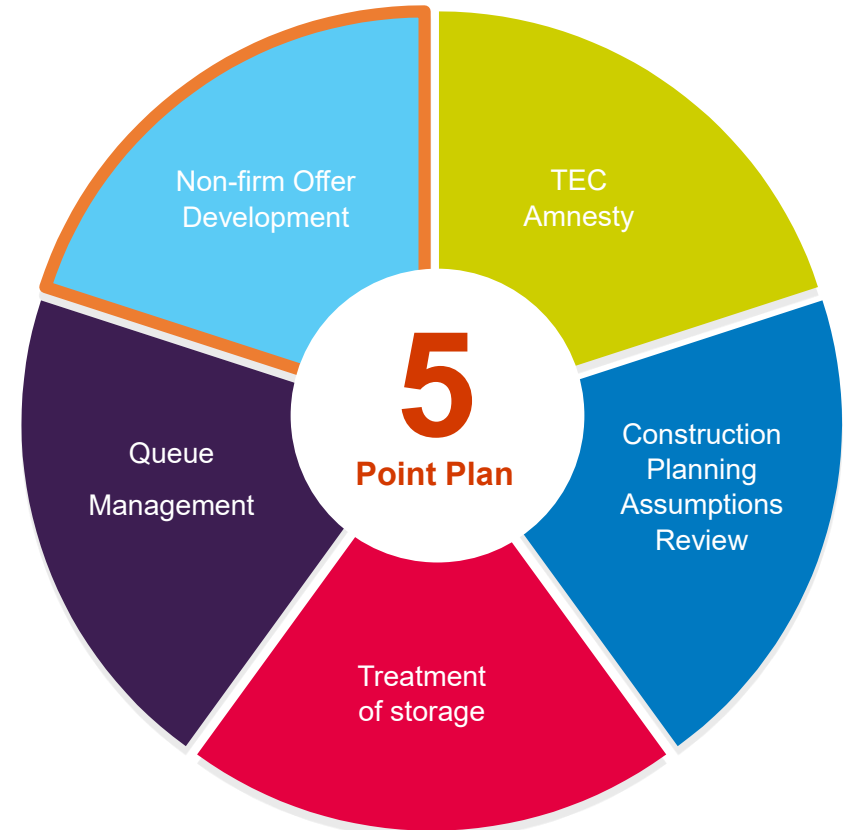
We published an update in June. It allows storage to connect once non essential enabling works are completed on a non-firm (customer choice) basis.

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. This will be for ~20 customers (~10GW). Sites have been selected by NGET on suitability criteria. Customers will receive offers shortly and will have 3 months to sign. During that time, they will need to assess the 'firmness' of their connection. Tranche 1 is for E&W transmission. Distributed connected storage is being progressed together with the ENA through their three point plan (point 2 – changing how transmission and distribution coordinate connections).



Strategic Connections Group

Improving the customer connections experience

Monday 16th October 2023



ENA Strategic Connections Group



Action 1: Managing the Distribution Queue

- **Spring clean.** Migrate pre 2017 offers to milestones contracts
- **First ready, first connected.** Prioritise 'shovel ready' connections



Action 2: Changing how T & D coordinate the queue

- **Clear & consistent boundaries.** Create technical boundaries.
- **Co-ordinating the queue.** Reallocate capacity.

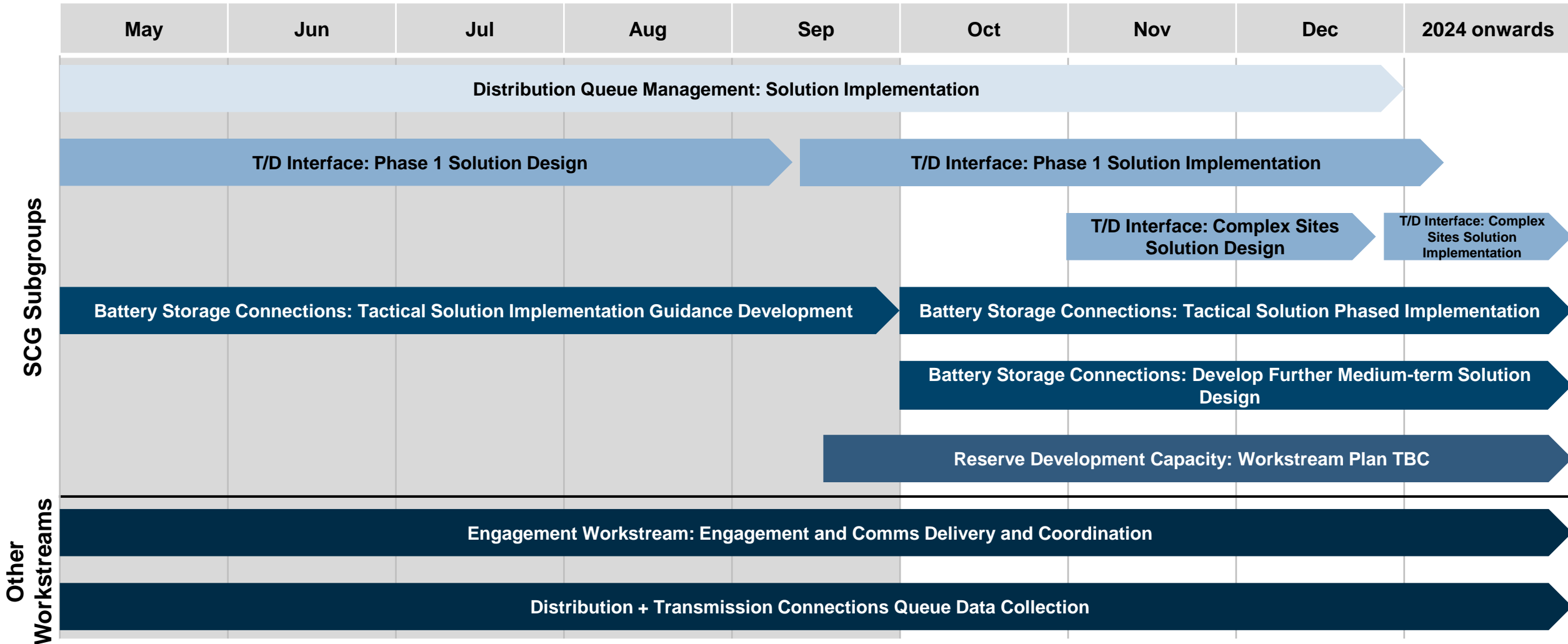


Action 3: Changing how storage connects to the network

- **Flex capacity.** Connect battery customers more quickly and improve the network's ability to manage capacity

Delivered in coordination with NG ESO's Connections Reform & 5 Point Plan at transmission level

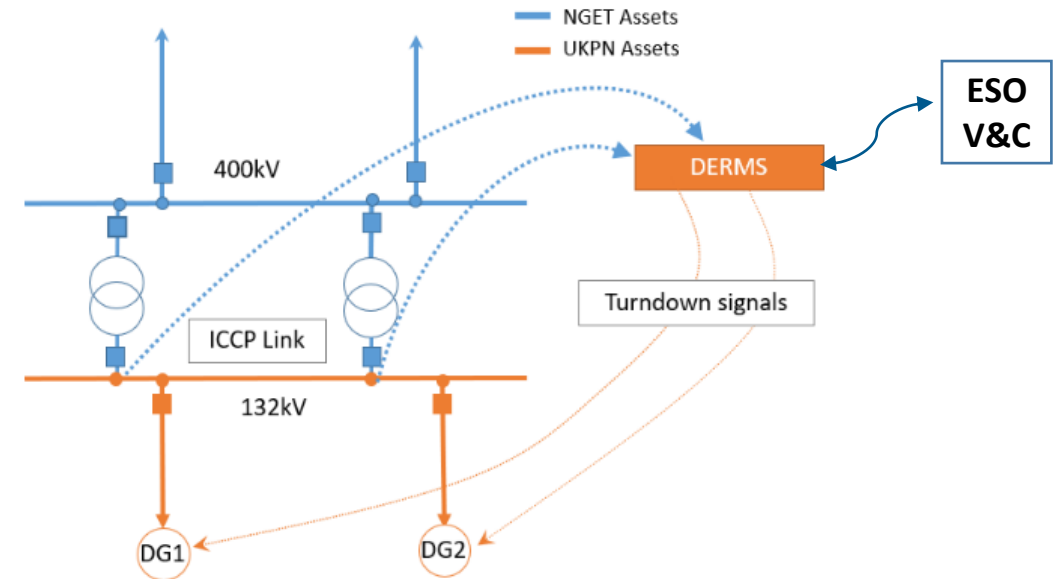
SCG Delivery Plan



Changing how T&D Coordinate the Queue

➤ What changes are we making?

- Setting **technical limits at GSPs** where customers are currently held off by transmission reinforcement works
- Providing customers on the **distribution network with an interim non-firm connection** arrangement, which is curtailable and uncompensated. Enabling more agile and shovel ready customers to connect earlier, thereby releasing capacity that is not currently being utilised
- Making this available in discrete phases based on agreed principles and pre-requisites



➤ Visibility and Control

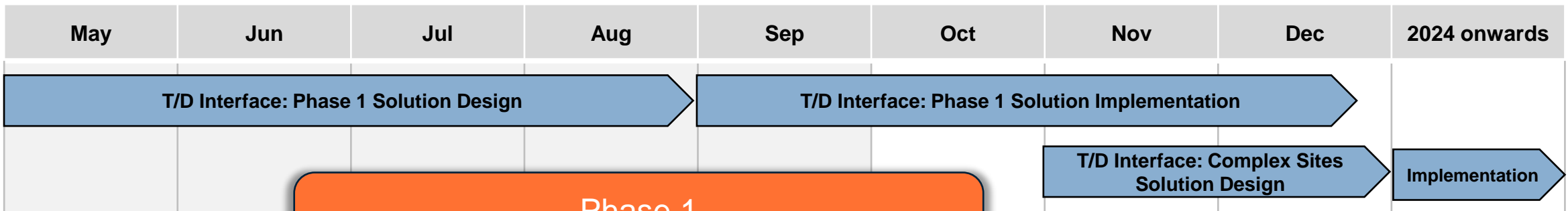
- DNOs will provide **visibility and control** to the ESO to facilitate a change to limits where specific system issues are forecast to impose a constraint on available capacity and additional actions are required to maintain system security

T/D Interactive Queue Enhancement Progress Update

Workstream Objective: Create clear technical boundaries between Transmission & Distribution, to better manage the distribution connection queue and accelerate customers with projects that are ready to connect and can accept an interim flexible connection.

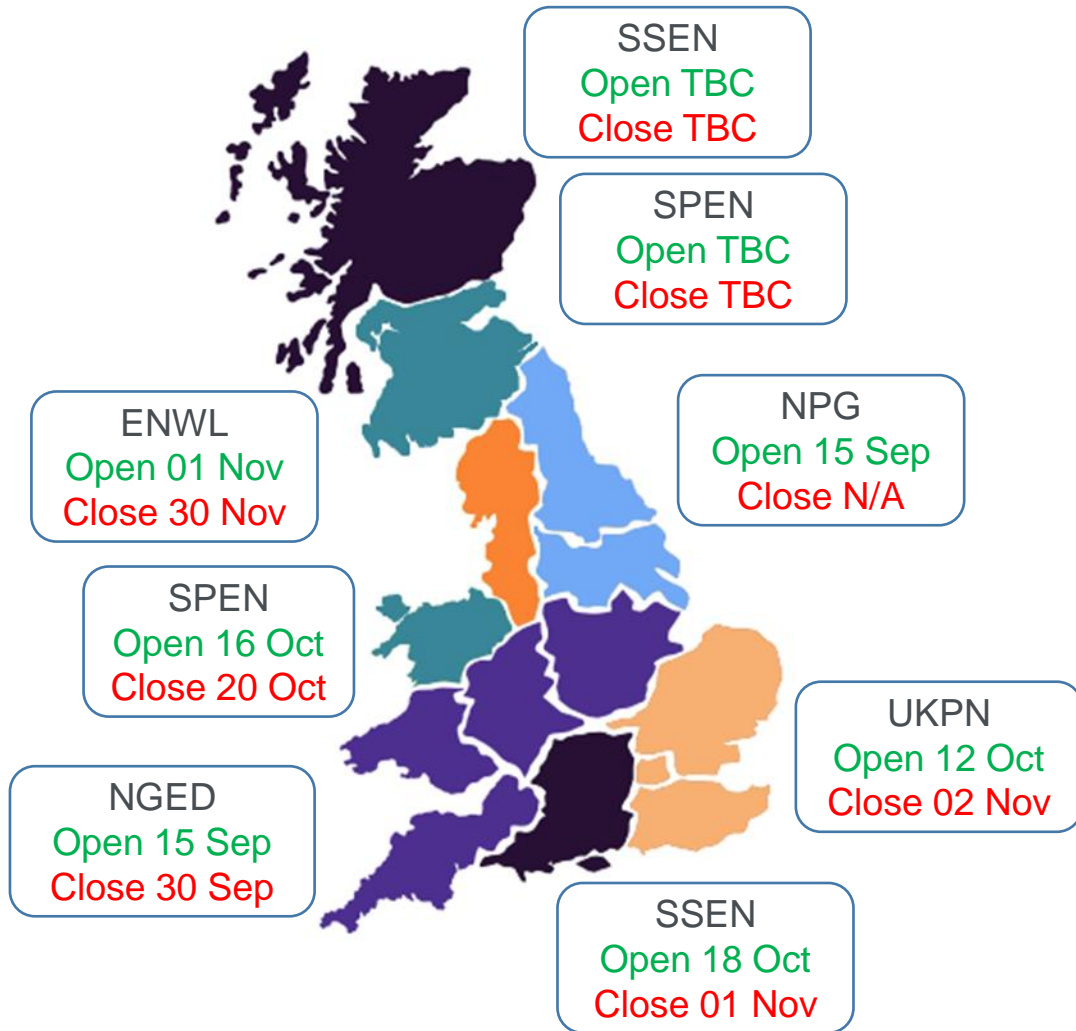
| Key Progress: | |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Designed technical methodology for setting technical limits at Grid Supply Points, working collaboratively with DNOs, TOs and NGENSO. |
| 2. | Commenced implementation for 52 priority Phase 1A sites, with the expected benefit of 18 GW / 411 customers. |
| 3. | Commenced implementation for 20 priority Phase 1B sites, with the expected benefit of 12 GW / 339 customers. |

| Upcoming Plans: | |
|-----------------|---------------------------------------------------------------------------------------------------------|
| 1. | Develop supporting principles including clear Visibility and Control rules |
| 2. | Design and implement methodology for Phase 2 sites and complex sites (multiple connections at a GSP) |
| 3. | DNOs actively engaging with customers to release EOIs for phase 1 sites and local implementation detail |



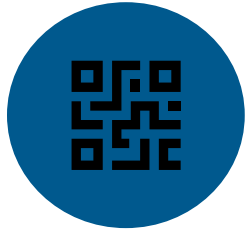
Phase 1
30GW across 72 GSPs, 750 customers!

DNO Expressions of Interest for Phase 1a



- DNOs are getting on with releasing the latent capacity present within their existing networks
- EOIs are being rolled out across GB initially targeting contracted parties constrained by transmission reinforcement
- Individual DNO webinars underway/planned
- **Phase 1A 18GW** is being released (12GW Phase 1b to follow), individual DNOs will be in touch with customers able to be accelerated
- Some connections could be accelerated by up to 10 years!

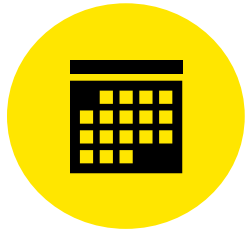
Potential Changes in Customers' Variation Offers



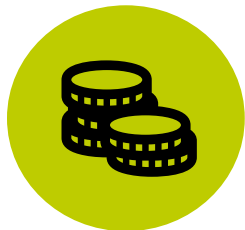
Terms for Technical Limits – inclusion of DERMS type solution at the boundary to control customers real-time



Curtailment report to estimate expected level of curtailment due to transmission constraint

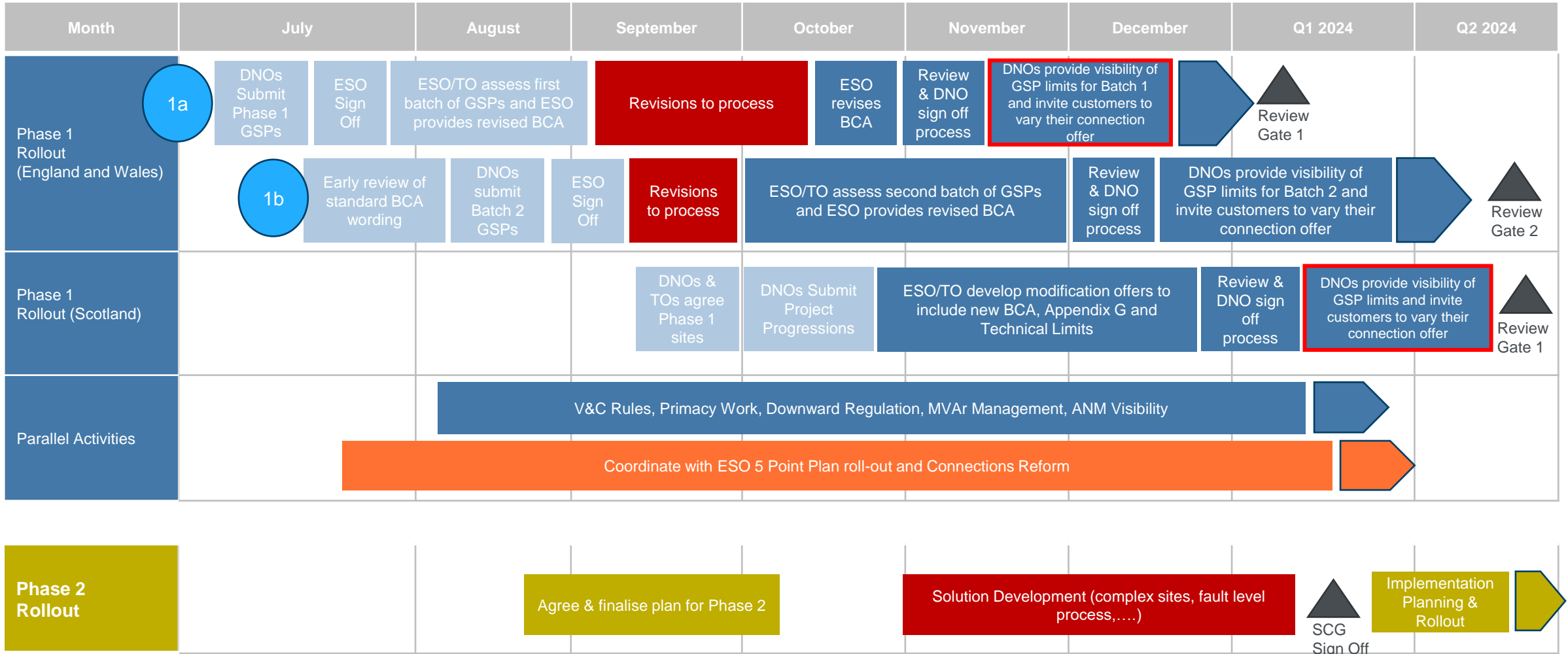


Updated milestones in line with new non-firm connection dates



Updated costs from original offer (could include costs for installation of new DERMS type equipment if not previously included in offer)

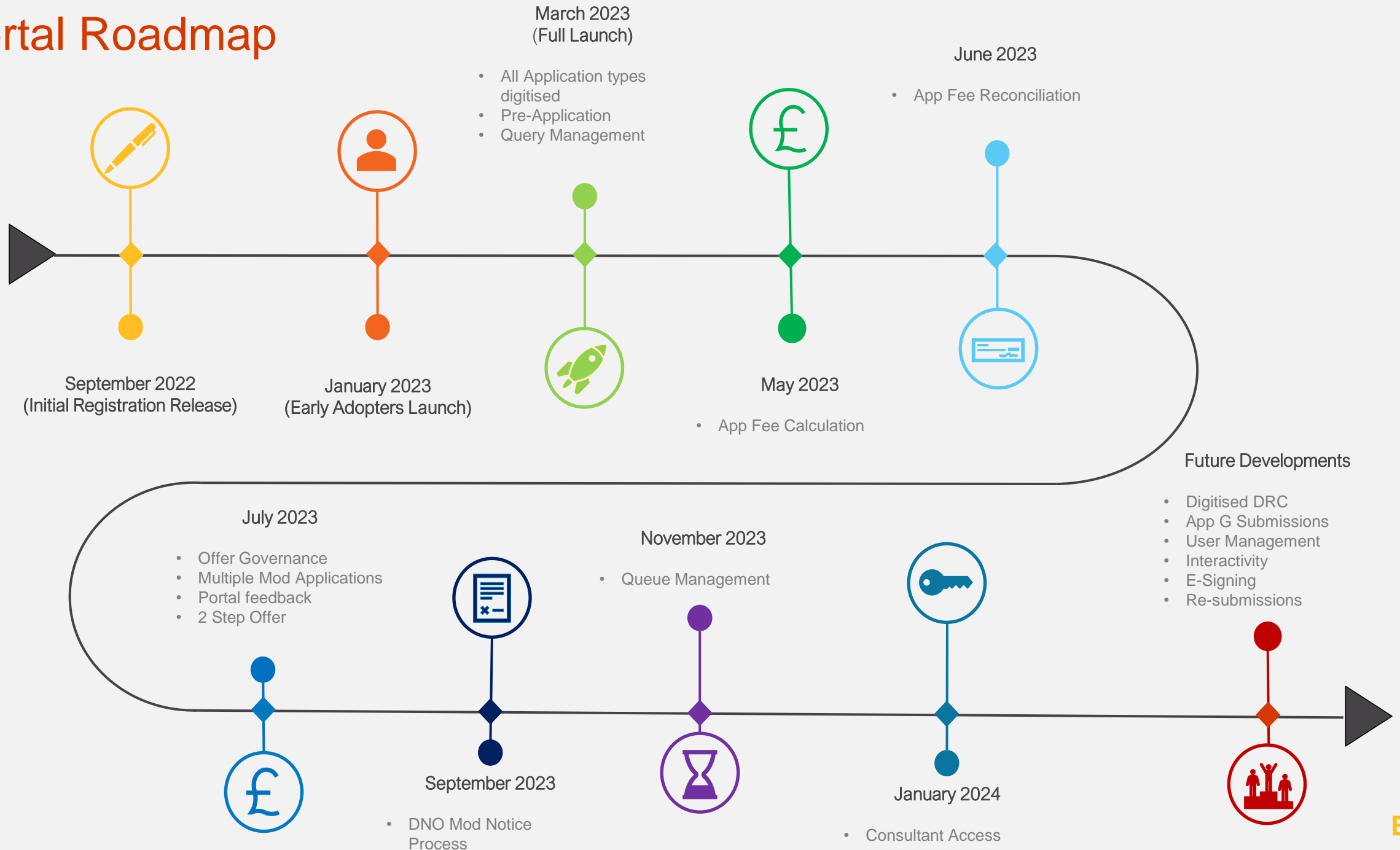
Phase 1 Implementation Plan & Future Work



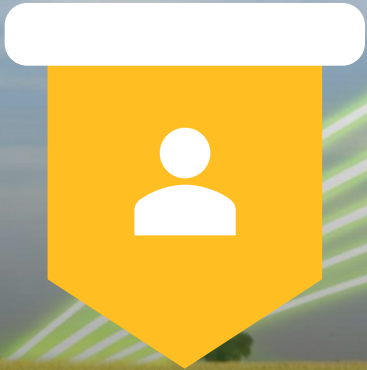
ESO CONNECTIONS PORTAL

Greg Hunt

Portal Roadmap



What impact has the Portal had?



Active Users

600

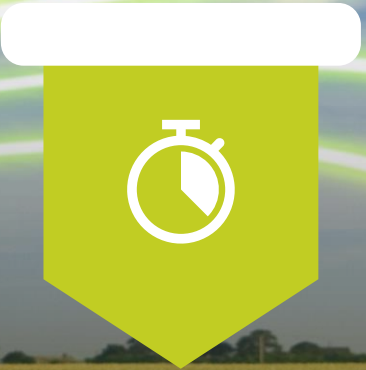
Mix of Super Users and Standard Users



Queries

700

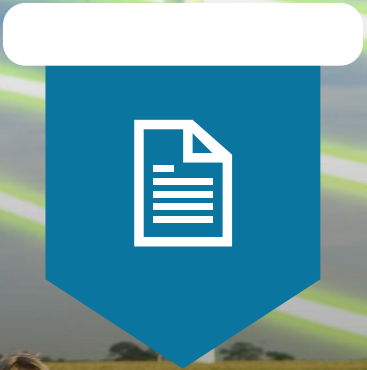
Received via new Portal functionality



Query Closure

4 days

Average days closure from query being raised beating SLA of D+5



Applications

1750

Variety of application types, now including multiple applications against GSP



Clock-start

20%

Improvement on Clock-start achieved dates - based on last years figures pre-Portal

Stakeholder Engagement

Delivered Q1/2 2023

Since the project started in 2021 we have been listening to Stakeholder feedback to help build and further improve the Portal.

Stakeholder feedback has specifically driven a number of features in the Portal:

- Multiple applications in flight at a single GSP
- Online Query Management
- DNO Mod Notice process
- Ability to increase number of Users in an account

In Development Q3 - 2023

Items prioritised by you for the next phase of delivery:

- Linking Query case number with Application reference for better tracking
- Visibility of Pre-App Meeting Date and triggering of email notification
- Surfacing more key dates on Portal including Clockstart
- Addition of Project name in Mod Notices for better clarity
- Word count addition on free text in Portal

Pipeline Q3/Q4 – 23/24

Reviewing and prioritising next set of features drawn from our Stakeholder workshops held in September.

Further workshops planned to test and feedback on new functionality.

Next Steps 2024

Larger Epics released throughout the year with opportunity to release smaller Stakeholder driven features at the same time.

Regular Stakeholder workshops to ensure priorities are aligned and ability for Stakeholders to suggest further enhancements.



OFFSHORE CO-ORDINATION

Jenny Mills

ESO Offshore Coordination Update

HND

- Recommendations published July 2022
- Detailed Network Design
- Infrastructure Delivery forums
- Impact Assessment Process

HND 2 (FUE)

- Scotwind recommendations will be included in TCSNP publication
- INTOG designs underway
- Round 5 (Celtic Sea) designs in step with Crown Estate process

Future of Network Planning

- Transitional Centralised Strategic Network Plan (TCSNP)
- Centralised Strategic Network Plan
- Strategic Spatial Energy Plan

CONNECTIONS TEAM UPDATE

Nicola Bruce



Nicola Bruce
Head of Connections Operations

This role has a huge customer focus, and will look to drive forward greater customer service by delivering on our existing processes, helping build stronger relationships with our TO delivery partners and meeting existing licence obligations.



Robyn Jenkins
Head of Connections Change Delivery

Accountability for delivery of the Connections Portal Project and managing the coordination and delivery of all reform activities and creating new processes for the Connections operations team. This will include delivering on the 5 point plan commitments.




James Norman
Head of Connections Strategy

Delivering the next level of design of the reform, while thinking about the longer term strategic direction of the connections process and related policy development and how it interacts with other major reform programmes across the ESO. Accountable for whole system connection design and policy, including thinking on connection competition.



David Wildash
Head of
Connections



Nicola Bruce
Head of
Connections
Operations



James Norman
Head of
Connections
Strategy



Robyn Jenkins
Head of
Connections
Change Delivery



Ali Harper
Scotland Manager



Peter Sipawa
Offshore Manager



Michael Oxenham
Connections
Design Team
Manager



Bec Thornton
Offshore Hybrid
Assets Manager



Greg Hunt
GBCPS Manager



Laura Henry
Policy & Change
Manager



Biniam Haddish
Compliance Team
Manager



Rachel Thomas
Demand Manager



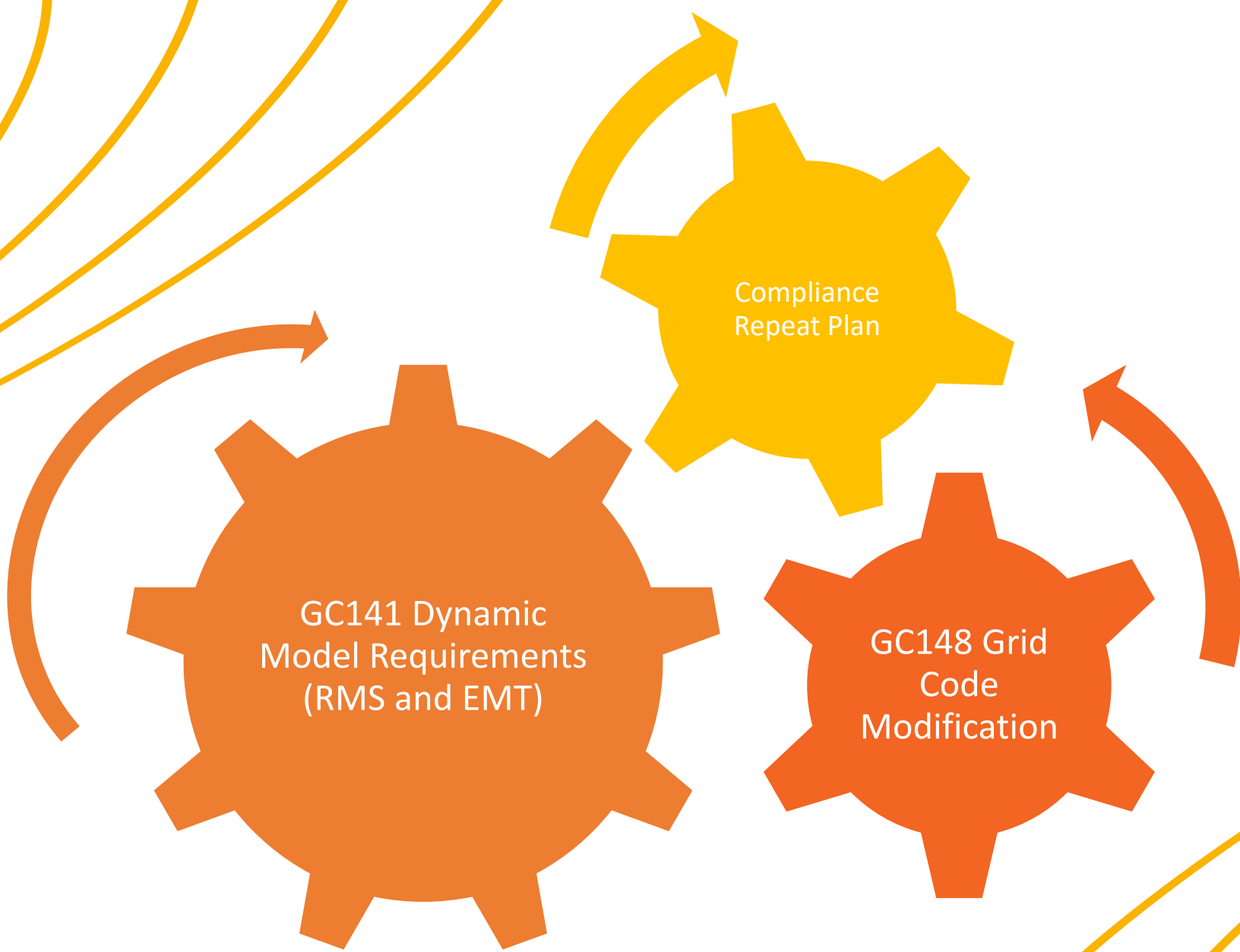
Will Kirk-Wilson
Strategy Manager



Joseph Martin
E&W Onshore
Manager

ESO COMPLIANCE UPDATES

Biniam Haddish



CONNECTIONS

Q&A



CONNECTIONS REFORM

James Norman



Cornwall Room

James Norman, Head of Connections Strategy, ESO

Paul Mullen, Senior Connections Design Lead, ESO

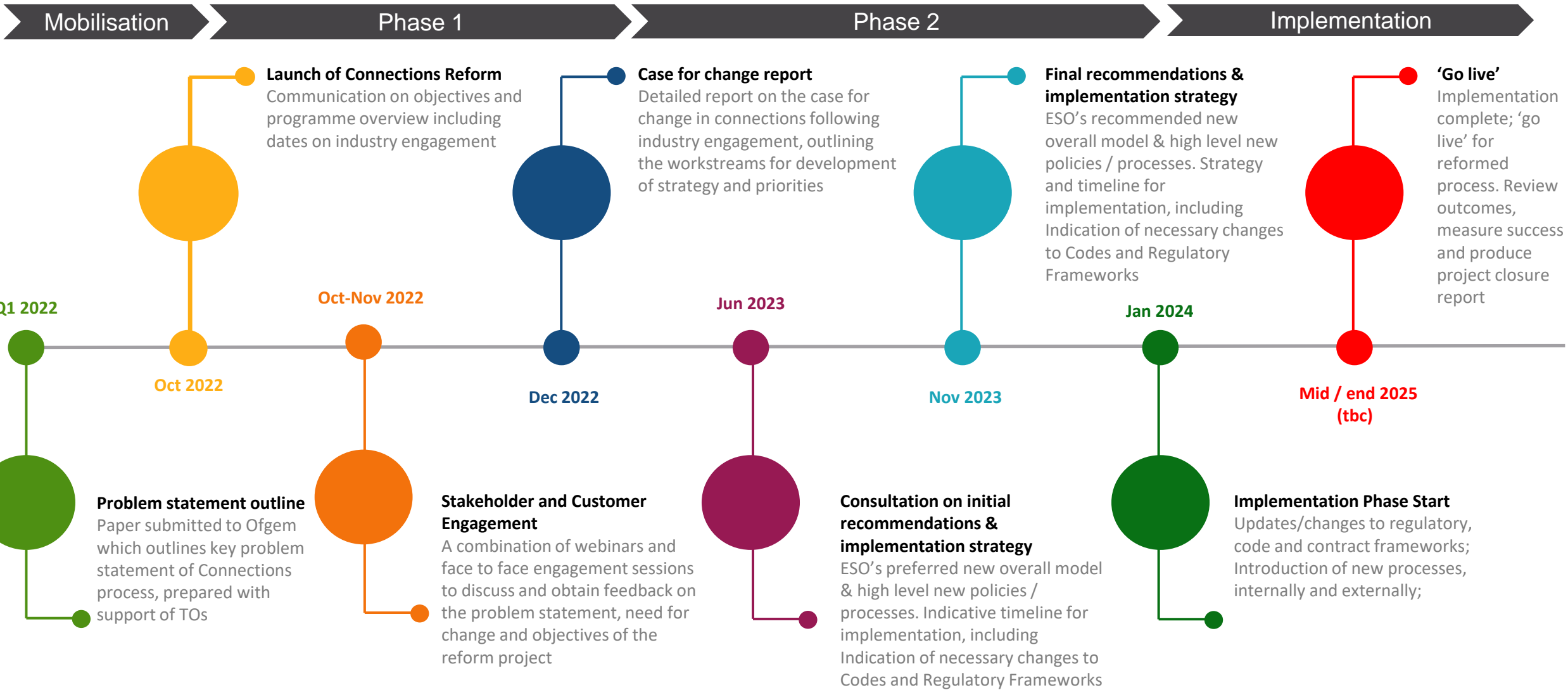
Jack Presley Abbott, Deputy Director – Market Design, Ofgem

Daniel Boorman, Head of Onshore Electricity Networks, DESNZ



Connections Reform & OFGEM & DESNZ Connections Action Plan

Overview of Connections Reform programme



ESO view of what the future of grid connections needs to look like:

Able to respond to future grid pressures

Benefits both demand and generation customers

Enables network to be built ahead of need

Facilitates a coordinated network design

First ready first connected

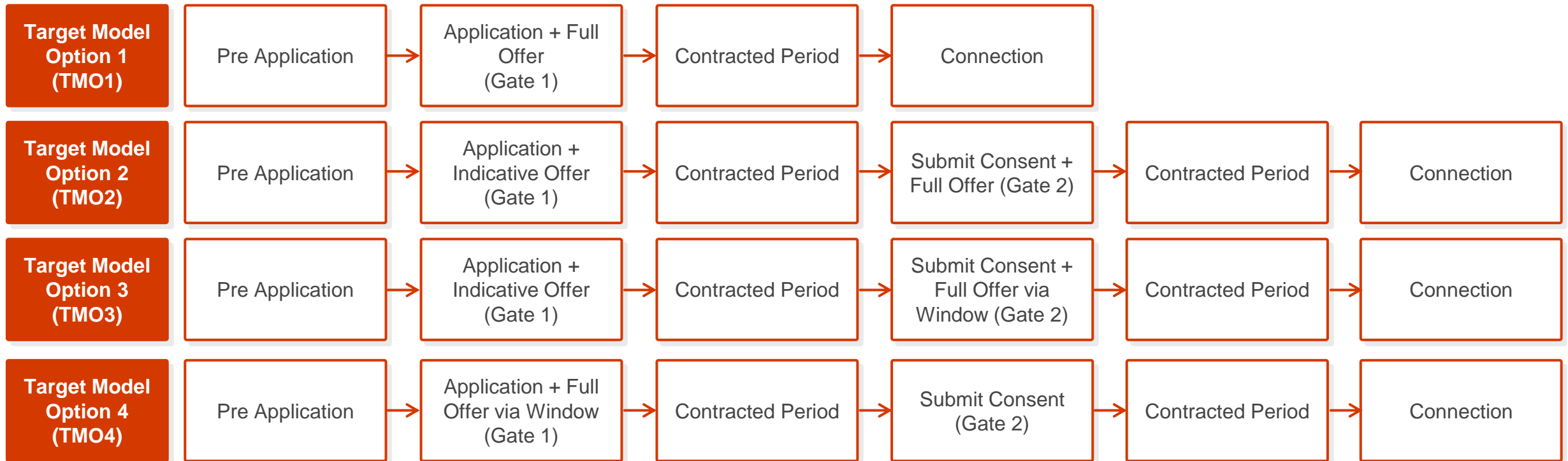


Saves consumers money

The Target Model Options

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

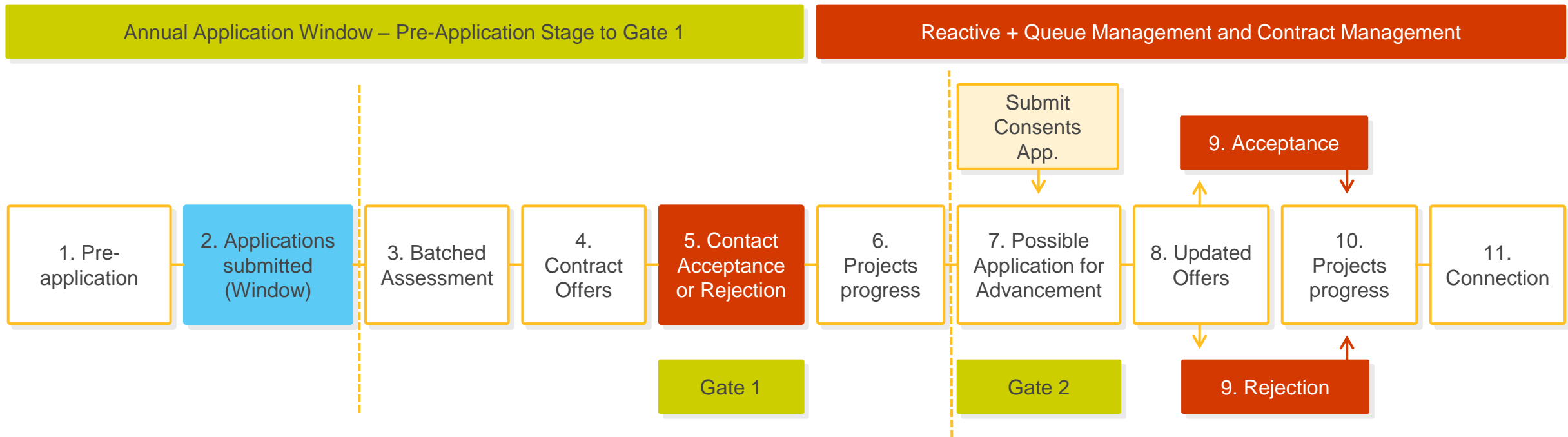
- Each TMO consists of a core process and a selection of changes from **18** add-on categories.
- Other core processes were considered but not progressed (e.g. more / later gates and multiple window processes).



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.



Connections Reform Phase 2 Consultation Responses

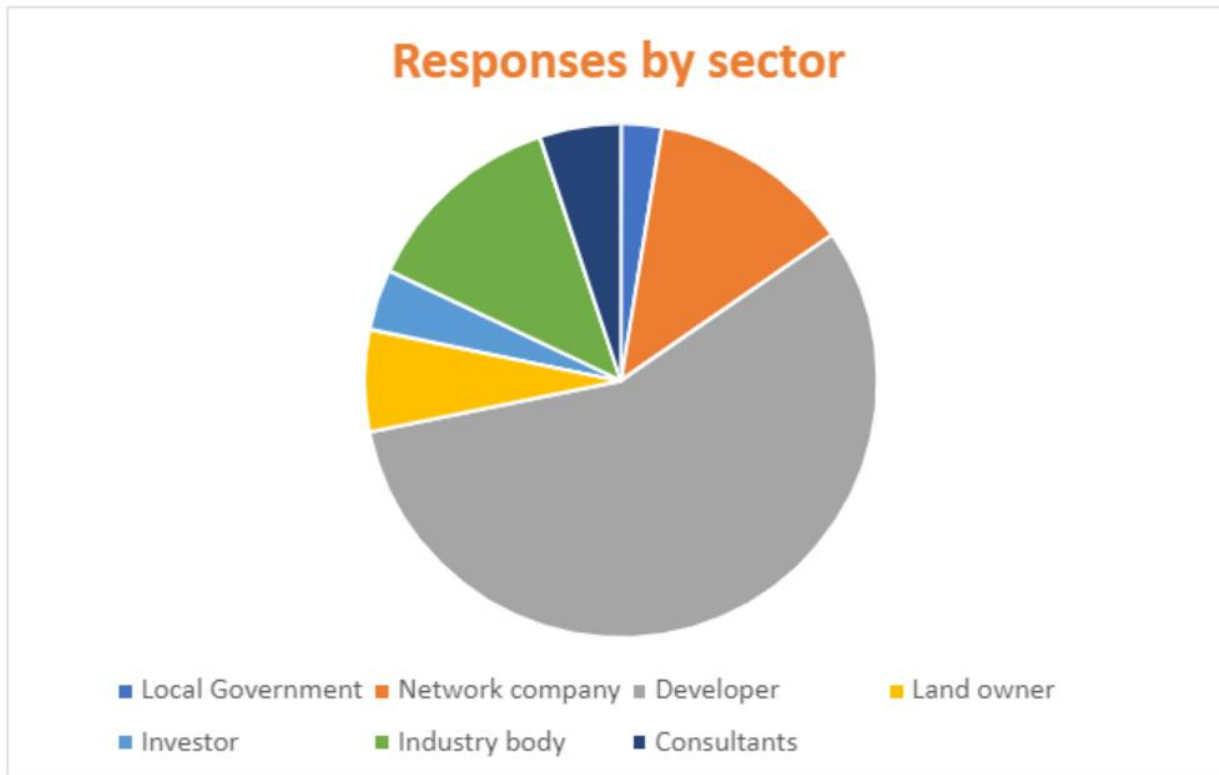
We consulted between 13 June 2023 and 28 July 2023 and received 78 consultation responses from a broad range of stakeholders (see *below*) and the non-confidential responses are published here

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.



Connections Reform Phase 2 Consultation Responses

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.

Connections Reform Phase 2 Consultation Responses

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.

Connections Reform Phase 2 Consultation Response

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

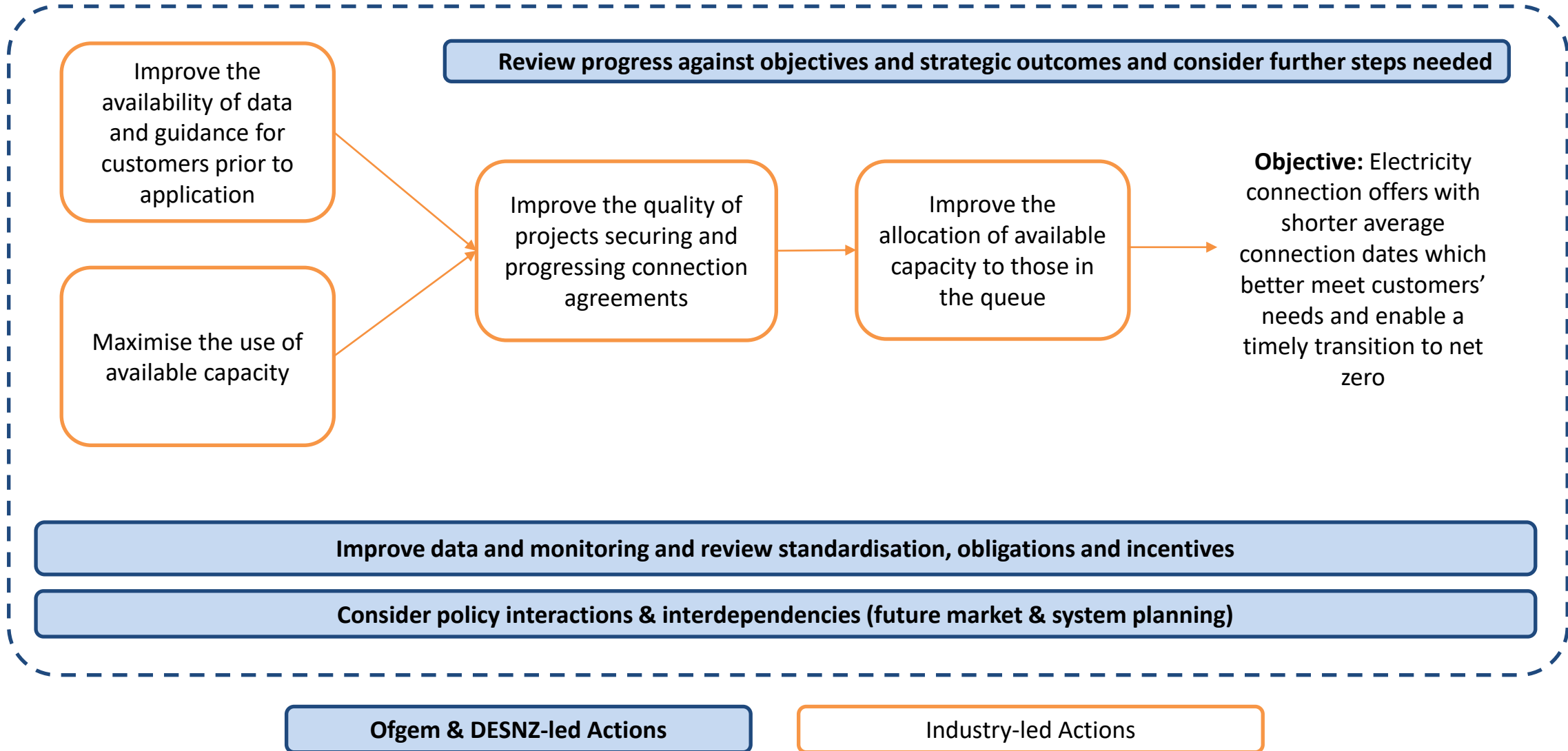
We have reviewed the consultation responses and will continue to further consider the feedback over the next few weeks to refine our proposals prior to making final recommendations in November 2023.

We will be taking updates to our external governance groups (DPEG and Steering Group) over the coming weeks.



Email us

Box.connectionsreform@nationalgrideso.com



**Please can you return to the Grand
Hall for Closing Statement**

AGENDA

15:00 – 15:15hr



David Wildash
Head of Customer Connections, ESO

15:15 – 17:00hr

Close

**Join us for tea, coffee and networking
with ESO and Industry Leads**

Get involved in the debate on the future
of energy and join our LinkedIn group
Future of Energy by National Grid ESO

SEMINAR CLOSE

