

Connections Reform

SSE Energy Businesses' response to
NGESO's consultation, July 2023

Document Classification | **Public**



Executive Summary

Introduction

This response presents the views of SSE's Energy Businesses, which encompass SSE Renewables (including its Solar & Battery business), SSE Thermal, Distributed Energy and Energy Portfolio Management. Responses representing the views of SSEN Transmission and SSEN Distribution are being submitted separately.

SSE's Energy Businesses have extensive experience in developing, building and operating generation and storage projects across GB, both on- and offshore and with interests in both new and existing technologies. Our portfolio of low-carbon assets is consistent with delivering a strategy focused on net zero.

Therefore, we recognise first-hand the many challenges that are driving this Connections Reform, including the long Connection Dates and the lack of information transparency for project developers to be able to appropriately assess and manage their project risks to deliver in accordance with the energy transition to net zero.

SSE Energy Businesses' position

We welcome NGESO's Connection Reform consultation as a key milestone in seeking to address the current challenges with the Connections process and establish a process that is more fit-for-the-future. Of the four models presented by NGESO, we are minded to agree (subject to the changes detailed below) that Target Model Option 4 (TMO4) provides the preferred foundation for GB Connections Reform going forward.

This conditional support is largely predicated on the role of coordinated network design early in TMO4. Fundamentally, it is investment in network capacity at pace and volume that will resolve the current connection challenges and we believe that TMO4 should better facilitate this investment by increasing certainty; both from a network's perspective in terms of the best way to provide and deliver this investment, and from a project developer's perspective in terms of the deliverability of its Offer. It is vital that the work to reform the Connections process does not detract from or lessen this need for network investment in any way.

Therefore, in putting forward this model (and its wider 5-Point Plan) as its recommended way to enable the connection of the necessary volume of renewable generation and other associated technologies in timescales commensurate with meeting net zero, it is key that NGESO is clear and transparent on how this is to be delivered. It is not easy for generators to support more rapid connections whilst NGESO is also advocating greater exposure to constraint costs through Locational Marginal Pricing (LMP). It is imperative that NGESO is clear with all stakeholders on the impact that the proposed Connections Reform will have, including, for example, on its congestion forecasts. Further, NGESO must be held accountable for its actions and how these impact on the objectives and outputs of this Connections Reform.

As stated, there are key aspects of TMO4 as presented by NGESO that we do not support. These include:

- (i) The 'worst-case' date at the point of the first Offer; and
- (ii) NGESO's proposed application of Gate 2.

We do not believe that either of these proposed aspects of TMO4 deliver an improved Connections process and, more importantly, we believe they risk inadvertently rebalancing the GB's mix of generation technologies in a way that is potentially inconsistent with Government policy. This is not the intent of Connections Reform (at least not at this stage) and it is important that this reform does not drive this

unintentionally forward to implementation, distinct from wider policy to enable a secure, resilient, net zero energy system.

Therefore, our support for TMO4 is conditional on the following:

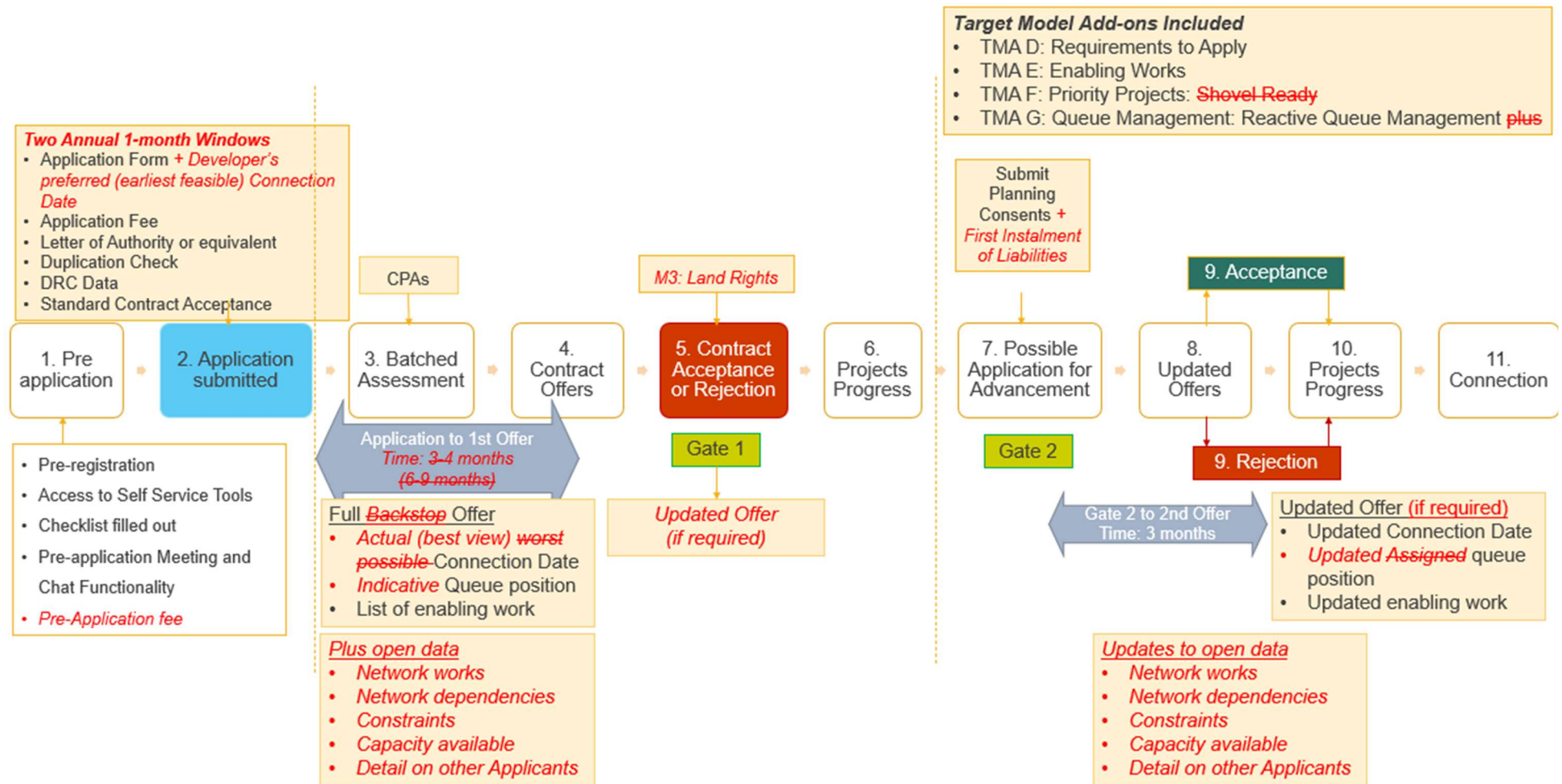
- Five core amendments to TMO4, as set out below; and
- Appropriate stakeholder-wide resolution of the detail and practical challenges.

SSE Energy Businesses' key requirements

We have identified the following five amendments that are necessary to TMO4 (see also Figure 1 below). These amendments (alongside further improvements) are expanded on within our response to the specific consultation questions.

1. The inclusion of two Connection Application Windows per annum to smooth NGESO's workload and lessen the risk to project developers of 'missing' a Window;
2. A full Offer with NGESO's 'best view' (rather than 'worst case') Connection Date, to be provided at the first contract Offer stage. We believe applicants should be required to state their preferred (earliest feasible) Connection Date at the point of application. The first full Offer would reflect the earliest NGESO (and respective TOs) can deliver the applicant's preferred Connection Date based on the outputs from its coordinated network design process and allocate an initial Queue position on this basis;
3. Evidence of meeting Milestone 3 of the Queue Management (CMP376) proposals (i.e. to have secured land rights) is an additional pre-requisite of accepting the first contract Offer;
4. Gate 2 remains the point at which applicants become eligible for advancement. However, Gate 2 is de-linked from the attainment of a more accurate Connection Date and / or Queue position. It is proposed to extend the Gate 2 criteria to include both the meeting of Milestone 1 of the Queue Management (CMP376) proposals (i.e. to have initiated planning consent) and a requirement on project developers to have made / committed to making the first instalment of liabilities; and
5. The opportunity for advancement is offered to projects meeting the Gate 2 criteria in order of Queue position. It is the customer's choice whether it accepts or rejects this opportunity for advancement.

Figure 1: SSE Energy Businesses' Revised TMO4



Further to the conditions and specific amendments to TMO4 set out above, SSE's Energy Businesses' key asks of this process and next steps are that:

- NGENSO makes clear that proposals designed to accelerate connections are inextricably linked to investment in new network capacity. Consistent with this, it should remove its support for LMP, which (if implemented) would expose generators (and ultimately consumers) to the full cost of existing congestion, plus the further costs of congestion caused by accelerated connections in advance of network investment.
- The Connections process must balance the needs of project developers as well as those of NGENSO (and network operators). This is becoming increasingly important as the projects seeking to connect to the network become more complex.
- We would welcome greater clarity from NGENSO on what it is doing to improve / streamline its processes to deliver a better Connections process and one that is resilient for the future. It is key that equal and equivalent requirements are also put on NGENSO (and network operators) to ensure that any revision to the Connections process delivers the required improvements for all and that the forecasted improvements (namely the opportunities for projects to be advanced and the uptick in projects able to be connected) can be realised.
- The detail and practical application of this model are still to be bottomed out. It is key that all stakeholders are fully involved in the ongoing development of the Connections process as the detail is worked through.
- Appropriate and early assurances are given to offshore projects that are in receipt of Offers through the Holistic Network Design (HND) and HND Follow-up Exercise (HND FUE) that their Offers will not be amended through the Connections Reform process.
- Finally, NGENSO's consultation sets out four models plus 20 Target Model Add-ons (TMAs), each with multiple options. It is not possible for any stakeholder to fully assess at this stage the impacts of these options and associated potential permutations, not least given the uncertainty over wider policy decisions. Therefore, our conditional support for TMO4, as expressed throughout this response, does not extend to the 20 TMAs. We believe these must be revisited as work to develop this reformed process and wider policy decisions are taken forward.

Response to Consultation Questions

Chapter 3: Foundational Design Options

1. Do you generally agree with our overall initial positions on each of the foundational design options and key variations? Are there any foundational design options or key variations that we should have also considered?

This reform of the Connections process has primarily been driven by NGENSO in response to the significant uptick in the volume of connection applications, but also its need to address the long Connection Dates for low carbon developments necessary to meet net zero. For the avoidance of doubt, it is vital that this work does not detract from or lessen the need for investment in network capacity at pace and volume. This network investment is necessary irrespective of the eventual Connections process model.

Notwithstanding this, the foundational design and key variations reflect NGENSO's need to 'ease' the current demands on its process. We agree that this is part of the solution; but in developing a reformed Connections process fit-for-the-future, we also need to consider this process from the perspective of project developers and the system's needs to deliver the energy transition to net zero. The eventual model must find the appropriate balance between the needs of NGENSO (and network operators) and those parties that are needed to develop and invest in the low-carbon projects that will provide the generation capacity and supply and system security commensurate with delivering net zero.

In bringing projects to market, project developers are also facing unprecedented challenges as the complexity of projects increases and technologies advance at pace. For example, the requirement for low-carbon non-renewable generation projects to consider and secure (in order to financially close on the project) not only their access to the electricity network and a single fuel source to support their project (as historically has been the case) but to also secure access to CO₂ and / or H₂ networks, marks a significant step change in complexity. It is key that changes to the Connections process are alive to this added complexity and do not ignore the real challenges that project developers have in seeking an electricity connection.

With this in mind, we believe NGENSO's foundational design options and key variations overlook the following considerations:

- The lack of transparency that project developers have in terms of the network works necessary to support the delivery of their project's Connection and the factors that impact this network's delivery; and
- The lack of visibility in terms of the pipeline of received applications / offers being processed by NGENSO.

With reference to the above, we believe this reform offers the ideal opportunity for NGENSO to embrace Modernising Energy Data¹ and to follow the recommendations² of the Energy Data Taskforce³ (given

¹ [Modernising Energy Data - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/modernising-energy-data)

² In simple terms, where the presumption regarding publication has now switched to one of publish unless a justified reason not to publish is detailed / provided (rather than the legacy position, which was to presume not to publish unless justified reasoning to publish was provided) as the benefits to end consumers of energy data transparency is overwhelming.

³ [Energy Data Taskforce - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/energy-data-taskforce)

their endorsement by both Government and Ofgem⁴) by publishing as much information as possible pertaining to network data (including detailed reasons why publication is not warranted for all other data).

Having this greater transparency of energy data relating to Connections would enable project developers and network operators to better account and plan for changes and, in so doing, stand to deliver greater benefits to end consumers.

Lastly, one of the key challenges of this work is that it is trying to create a standalone Connections process fit-for-the-future without influencing wider policy and market reform. We agree that it is not the role of NGENSO to develop a Connections process that influences the outcome of this wider work. However, in presenting a model (TMO4) that could be 'tweaked' to accommodate multiple eventual scenarios through a significant number of Target Model Add-ons (TMAs), but without certainty on the wider context and which TMAs may be 'activated' and how, it makes it impossible for any party to fully assess the potential implications and, as a result, increases the risk of unintended consequences.

Further, there is much more detailed work required to understand how the proposed model would and could work in practice.

Therefore, in responding to this consultation, our support is for the TMO4 as set out in this response and subject to working through and appropriately addressing the practical challenges that come with this model. For the avoidance of doubt, we do not (at this stage) give our wider support to the broad range of options that may (or may not) come to fruition through subsequent activation of the proposed TMAs.

2. Do you agree with our initial view that the current issues with the connections process could potentially be addressed on an enduring basis through other, less radical, and lower risk means than the introduction of capacity auctions?

We agree that there is significant scope for positive change to the Connections process through interventions that are at the less radical end of the spectrum, for example:

- Better and more active Queue Management;
- Much greater transparency of information to enable project developers to develop better projects and have better visibility of the risks and interactions to more effectively manage those projects; and
- Faster connections for technologies with contracts to provide Grid support services.

Whilst we are not opposed to more radical change, possibly including aspects of central planning to support, for example, emerging technologies such as Carbon Capture and Storage or the specific locational needs of the system, we agree that this would need to be managed and coordinated through a holistically-consistent reform that very carefully supported and appropriately reflected the parties that have acted in good faith under the framework up until that point.

Further, the work to support (or otherwise) more radical changes, including the auctioning of capacity, has not been done as part of this Connections reform. Changes of this nature would require extensive analysis and widescale engagement and consideration by all stakeholders to determine the value and manage the potential risks. It is important that stakeholders do not just see the potential

⁴ "The Government and Ofgem have endorsed the [Energy Data Taskforce's](#) recommendations" [Modernising Energy Data - GOV.UK \(www.gov.uk\)](#)

upside of such proposals (i.e. access to network capacity in the nearer term) but understand the potentially significant risks and key trade-offs that come with such an approach, not least reduced certainty and confidence in project revenues over a project's lifetime and the shift away from NGESO's current approach to managing constraints.

3. Do you agree with our initial view that the reformed connections process should facilitate and enable efficient connection under either a market-based (i.e. locational signals) or 'centralised' deployment approach (or an approach somewhere between the two), but not mandate which approach to follow?

We agree that it is not the role of NGESO to develop a Connections process that influences the outcome of wider policy and market reform work.

However, in presenting models that could be 'tweaked' to facilitate multiple eventual scenarios and setting out these 'tweaks' in the form of Target Model Add-ons (TMAs), we believe NGESO has presented models that have such a broad potential reach and range of outcomes, that stakeholders cannot validate or understand the implications and impacts in response to this consultation.

Therefore, whilst we commend NGESO on seeking to develop an enduring Connections process at this time, we believe it is key that the enabling provisions to accommodate the potential outputs of wider policy and market reform (including REMA) are revisited and enabled at the appropriate point in the future rather than now to avoid creating a process full of uncertainties and inherent risk.

Chapter 4: Pre-Application Stage

4. Do you agree with our initial recommendation that TMA A to TMA C should all be progressed, irrespective of the preferred TMO?

In principle, we believe there is value in progressing all three of the above TMAs. Indeed, TMAs A-C are consistent with standards of service provided elsewhere in the industry. In particular, we support TMA A. We agree that capacity registers need to be expanded to give transparency on capacity applied for as well as offered and we agree that better information and visibility on network works, and the capacity that will be released as a result of these works, is needed. This is commensurate with the recommendations of the Energy Data Taskforce.

However, whilst we agree that it is in everybody's interests to get the best out of Pre-Application meetings, we are less clear that the proposed qualifiers are the right ones. Developers will use this meeting for a variety of reasons, but presumably narrowing down their options (at least in terms of capacity and technology) for their eventual application is one of the key reasons for having this meeting? Accepting that the aim is for applicants to be better able to access the information to inform their own decisions on this, it is not clear that this improved access to self-service information replaces this 'human' engagement. Therefore, we question whether it is appropriate to require applicants to have identified capacity and technology at the Pre-Application meeting stage.

Separately, in relation to TMO4, it is not clear that the Pre-Application process would allow sufficient time for project developers to act on the information received as part of this Pre-Application meeting whilst still meeting that model's Application Window. Clearly, this needs to be the case if this Pre-Application meeting is to be of value. We have similar concerns with TMA C and TMO4. Applicants would need to have assurances around the timing of both these 'services' so that their use (i.e. either the Pre-Application meeting or optioneering route) does not run the risk of them 'missing' the Application Window and being exposed to significant delays to the progression of their project. Elsewhere in this response, we put forward the proposal that there should be two Application Windows per annum. This would help to mitigate the above concern.

5. Do you agree with our initial recommendation on the introduction of a nominal Pre-Application Stage fee, discounted from the application fee for customers that go on to submit an application within a reasonable time period?

We are minded-to agree with NGENSO's proposal to introduce a nominal Pre-Application Stage fee. Whilst we recognise the possible tension in charging applicants that are engaging in good faith at this early stage in the process, we are prepared to offer our support on the basis that we believe this will help to moderate NGENSO's workload in the short-term and focus resource on applicants that are more serious. However, whether this should be an enduring payment structure, we are less certain and, as such, we believe any changes in this area should be kept under review.

6. Do you agree with the importance of the TMA A 'Key Data'? Please provide suggestions for any other key data that you suggest we consider publishing at Pre-Application Stage.

Yes. We fully support better transparency and access to information to ensure all parties are better able to assess their projects and the associated risks. We believe this is consistent with the recommendations of the Energy Data Taskforce.

Chapter 5: Key Target Model Add-ons

7. Do you agree with our initial recommendation with regard to TMA D (requirements to apply)?

We are minded to agree with NGENSO's initial recommendation on TMA D. However, consistent with seeking to address the volume of connection applications, we believe there would be merit in NGENSO better defining and standardising the form of the Letter of Authority (LoA) (or equivalent) that would be required to meet a competent application.

8. Do you agree with our initial recommendation with regard to TMA E (determination of enabling works), including that it is right to wait until the impact of the 5-Point Plan is known before forming a view on whether further changes to TMA E are required?

We agree that further changes (as per TMAs E1-E3), which limit the extent to which projects can connect, should not be taken forward at this time.

The changes being proposed under TMAs E1-E3 are significant and have the potential to fundamentally change how the system is managed, the rights of parties connected to the network and those parties' and others' project economics. Further, there is the potential for these Add-Ons to conflict with the intent of this reform, which is about enabling the connection of the necessary volume of renewable generation and other associated technologies quickly and efficiently.

We have long-supported policies, such as Connect and Manage, which have the potential to offer good value for customers. However, the sustainability of this policy is reliant on network reinforcement catching up and keeping pace with the accelerated generator connections.

In this regard, we have strong concerns regarding potential inconsistencies in NGENSO's policies. Fundamentally, proposals to accelerate Connections do not sit alongside proposals to drive non-firm access or Locational Marginal Pricing. Together, these policies would expose both new and existing generators to the higher cost of congestion caused by connecting more new generators ahead of network reinforcement. This represents an unacceptable risk to investors in GB generation.

Against this background, it would be helpful if NGENSO set out what it expects the impact of the proposed changes (and its wider 5-Point Plan) to be on its congestion forecasts. It is imperative that NGENSO is transparent from the outset on the benefits that its proposed reforms to the Connections

process will deliver. Consistent with this, it is key that NGESO (rather than wider stakeholders) is held accountable for any decisions that it makes, including (but not limited to) any assumptions made by NGESO on project attrition and how this feeds through and impacts on the objectives for this reform, i.e. the scope for project advancement.

Specific to TME E2, we do not believe it would be prudent to implement further changes to the Construction Planning Assumptions (CPAs) at this time given that changes to these assumptions have only recently been implemented. These should be allowed sufficient time to take effect (and the impacts assessed / lessons learnt) before consideration is given to layering on further change. Consistent with the point made in the previous paragraph, it is key that NGESO's CPAs are fully transparent so that applicants can fully assess their opportunities for advancement and NGESO is held accountable for any decisions that it makes and the consequences of these.

Specific to TMA E3, we would not support changes of this nature without thorough and proper engagement with stakeholders around the development of the necessary details of this approach, including how it would be transparently applied.

Indeed, it is for this reason that we have encouraged NGESO to provide upfront clarity on the practical detail required to implement its recent policy proposals to accelerate the connection of energy storage. Whilst not opposed to the changes envisaged under NGESO's policy proposals, we believe any changes must be taken forward in accordance with due and proper process (expedited, if necessary) to ensure changes are appropriately communicated and considered by (and transparent to) all impacted parties.

Separately, we agree that provisions to allow a more anticipatory approach to network investment should be taken forward. This needs to be backed by appropriate changes to the regulatory framework and we would encourage Ofgem to make the necessary provisions for this. We believe facilitating a more anticipatory approach to investment (that is consistent with investing in new network capacity at pace and volume) is key to addressing the Connection challenges, not least the lengthy Queue and long connection dates. Importantly, we believe this needs to be progressed regardless of the Target Model Option taken forward, although we accept that the 'scope' for anticipatory investment is most obvious where there is provision for coordinated network design.

9. Do you agree with our initial recommendation with regard to TMA F (criteria for accelerating 'priority' projects)?

We understand the rationale for wanting to introduce criteria that enable 'priority' projects to be accelerated and / or alleviate the current challenge where developers find their projects 'stuck' behind other projects progressing at a slower pace. However, developing the criteria to facilitate this without influencing or rebalancing the future technology mix and / or penalising more complex projects with longer delivery timescales, is far from straight forward.

Although TMA F considers four possible 'high level' criteria for acceleration, in practice, we see there being one of two plausible ways in which such a project can be 'earmarked' for priority status, either:

- It is designated a 'priority' project by an official body (namely Government) as a result of the merits that it brings to society, or
- It reaches a certain stage in its development.

Both require a Gate in order to facilitate acceleration, i.e. a change in Queue position.

The challenge with Gates

Three out of four of NGESO's proposed models include a second Gate that would automatically enable projects to be accelerated once they reach a certain stage in their development (plus give scope for designated 'priority' projects to be accelerated should this be required). Whilst we are not opposed to this in principle, it is difficult to envisage such a Gate that is effective in its design.

Any Gate, where reaching it results in some sort of benefit for the project developer, i.e. the allocation of a Queue position and / or the assignment of a more accurate Connection Date, creates an arbitrary 'race' for project developers to reach that point in the process as soon as possible.

The earlier that Gate is in a project's development timeline, the less likely it is to be a realistic indicator of how 'ready' or how quick that project will progress to connection. Further, if reached too easily or too early, a Gate is unlikely to effectively determine those projects that will develop and require connection quicker and, as such, is unlikely to prevent the current challenge where faster progressing projects can become 'stuck' behind slower projects; it just shifts the existing fixed point in the process. NGESO's consultation proposes that this point becomes the submission of planning consent. We suspect that this is too early an indicator of project 'readiness' and will have very little impact in terms of better 'stacking' and 'unblocking' projects in the Queue.

In contrast, if a Gate is later in a project's development timeline, there is a risk that the 'benefits' of reaching that Gate, i.e. the allocation of its Queue position and / or confirmation of its Connection Date, are known too late in the project's development cycle to facilitate efficient planning and contract management. Further, if too difficult or too late, it is likely that such a Gate will require project developers to take on too much cost and risk prior to reaching it.

SSE Energy Businesses' Gate proposal

We believe a more effective approach would be to issue each applicant with a full and best view Connection Date at the first Offer stage (Stage 4 in Figure 1 below). We suggest this is based upon an applicant's preferred (earliest feasible) Connection Date (which we suggest they should be required to submit at the point of application), coupled with the outputs from NGESO's coordinated network design process and the relevant TO's timescales for delivery. We suggest this information is also used to allocate initial Queue position.

As a pre-requisite of accepting this Offer, we propose that applicants would be required to evidence the meeting of Milestone 3 (i.e. having secured land rights) as per the current Queue Management (CMP376) proposals. It is recognised that following the close of the period in which applicants within the batch have to accept their Offer, some updates to Queue position and Offers may be required to account for Offers that have not been accepted.

Under our proposal, Gate 2 would then no longer be coupled to receiving both an actual Connection Date and Queue position. However, its focus would still be to offer projects the opportunity to move to an earlier place in the Queue where another project in that batch assessment had created a 'gap'.

To progress to Gate 2, we are proposing that applicants would still be required to show evidence of submitting their application for planning consent (as per Milestone 1 of the current Queue Management (CMP376) proposals). However, further to this, we are also proposing that applicants should be required to pay (or give their commitment to paying) the first instalment of liabilities. This would ensure applicants had to, as a condition precedent, demonstrate both their project progression and financial commitment. As stated, in return for meeting these Gate 2 requirements, applicants (now considered 'priority' projects) would be given the opportunity to be considered for Connection Date and Queue position advancement, i.e. they would become eligible for active Reactive Queue Management and offered (in Queue order) the opportunity to move to any suitable 'gap(s)' that had been created ahead of their current Queue position.

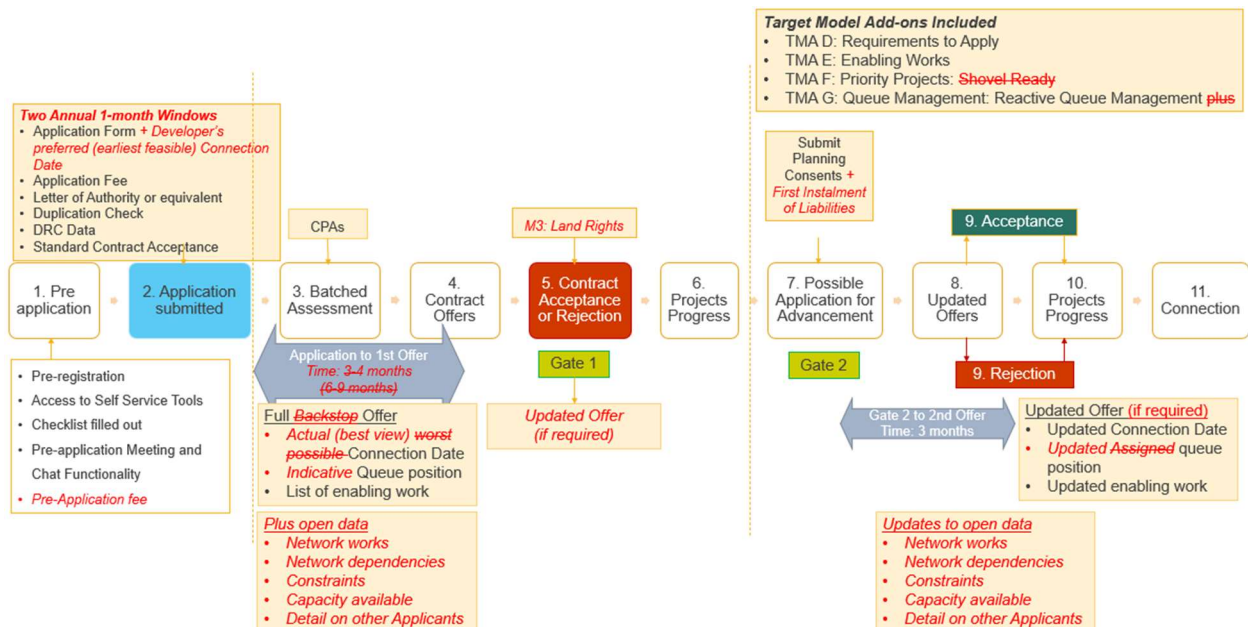
If not ad hoc, this could be facilitated for all Gate 2 projects at the next Application Window (which we see occurring every six months), assuming that this is the point at which NGENSO reviews the contracted background to take account of project attrition.

Importantly, in managing this opportunity for advancement or acceleration, we believe the following key 'rules' need to be applied:

- Projects that are part of the same Application Window (and batch assessment) can be re-ordered to deliver the most efficient outcome based on projects' individual ability to progress. However, fundamentally, no party in the 'batch' is detrimentally impacted (relative to their contracted Offer) by another project in the batch being able to advance.
- Any 'capacity gaps' that are created by the loss of a project cannot be made available to future 'priority' projects (in subsequent Application Windows) on a firm basis. This would disadvantage applicants in the 'batch', especially larger, more complex projects that are less able to take advantage of 'capacity gaps' yet signalled their network requirement early and are progressing in line with commitments.
- However, it may be possible / feasible to make available 'capacity gaps' to future 'priority' projects (in subsequent Application Windows) on an 'interim' or 'quasi firm basis', i.e. until it is required by the applicants within the batch.

Fundamentally, the process needs to ensure that larger more complex projects, which might initially be allocated a later Queue position in a Window due to their longer lead times, are not unduly disadvantaged in the event that earlier projects within the Window fall away.

Figure 1: SSE Energy Businesses' Revised TMO4



Other priority projects

Whilst recognising that there may be political will or desire to accelerate specific projects at some point in the future, be that on locational or technology grounds, we agree that this (and TMAs F1 and F2) is a decision for DESNZ and not something to be taken forward as part of this current NGESO consultation.

Outside of a decision from DESNZ or the Gate criteria set out above, we do not support further provisions to accelerate 'ready to progress' projects (namely TMAs F3 and F4). Basing acceleration criteria solely on a project's readiness to connect or its ability to pay, runs the risk of being very short-sighted and inadvertently rebalancing the technology mix. We do not believe proposals of this nature are commensurate with driving the required Grid system architecture and a secure and sustainable net zero energy transition.

10. Do you agree with our initial recommendation with regard to TMA G (queue management)?

Commensurate with our response to Q9, whilst we can understand the rationale for wanting to introduce criteria that enable any 'capacity gaps' in the Connection Queue to be allocated to 'priority' projects (RQM+), in practice, the effectiveness of RQM+ in driving the 'right' behaviours, is highly dependent on what constitutes a 'priority' project and what constitutes 'ready to connect'.

We agree that focus needs to be given to clearing the Queue of projects that are not progressing, hence why we have given our support to the current CUSC modification (CMP376) and some of the more robust alternatives tabled through that process. However, we do not agree that priority should be given to projects solely on the grounds that they are 'ready to connect'. We believe this runs the risk of inadvertently rebalancing the technology mix and will not necessitate a more secure and sustainable energy system for the delivery of net zero.

As such, our support is for a Reactive Queue Management (RQM) approach that 'straddles' RQM and RQM+, as defined in NGESO's consultation. This is because we believe that opportunities for advancement should follow Queue position. However, our proposal recognises 'priority' projects, in so far as they have either:

- Met the Gate 2 requirements (as we define in this response); or
- Received special designation from DESNZ.

Further to this, and as set out in more detail in our response to Q9, in managing this, we believe the following 'rules' need to also be applied:

- Projects that are part of the same Application Window and batch can have their Queue position re-ordered to deliver the most efficient outcome based on projects' individual ability to progress.
- Any 'capacity gaps' that appear within a batch of projects in an Application Window cannot be made available to future 'priority' projects (in subsequent Application Windows) on a firm basis.
- However, it may be possible / feasible to make available 'capacity gaps' in a batch to future 'priority' projects (in subsequent Application Windows) on an 'interim' or 'quasi firm basis', i.e. until it is required by the applicants within the batch.

For the avoidance of doubt, we do not support PQM (either in the form of G3 or G4). We do not foresee benefits that counter the significant drawbacks outlined in the consultation for this to be considered further (i.e. project investment risk if connection dates could be delayed even where a developer was meeting its own delivery milestones; the potential for projects with inherently quicker delivery timetables to be perpetually advanced ahead of projects with inherently longer delivery timetables; and the combined risk that this inadvertently leads to a rebalance of the technology mix

with unintended consequences for the sustainable meeting of net zero at lowest overall cost to consumers).

Chapter 6: Target Model Options

11. Do you agree these four TMOs present a reasonable range of options to consider for a reformed connections process?

First and foremost, NGENSO's four TMOs seek to resolve NGENSO's current challenges - namely the significant uptick in Connection applications and long Connection Dates - by placing 'restrictions' (compared to the *status quo*) on applicants seeking to enter or engage in the Connections process, either in the form of greater requirements to be met in order to progress or be awarded certainty (i.e. through the introduction of checklists and / or Gates), or limitations on when their requirements will be considered (i.e. Windows).

We agree that steps should be taken to:

- Improve the quality of applications coming forward and limit the need for developers to clog up resources through having to submit multiple applications as a way of getting information about the network that they wish to connect to;
- Improve the ability of NGENSO / TOs to issue Offers that are commensurate with designing and developing a coordinated network; and
- Address the increasingly far-out Connection Dates being awarded to applications made today.

However, we question whether NGENSO's proposed models give applicants the necessary assurances that NGENSO is taking equal and equivalent steps to improve and streamline its own processes, including:

- Its exchanges with the TOs and the corresponding works to progress the network requirements (and the planning for these works) in timescales that are commensurate with project developers' needs and the proposed new process. It is important that the introduction of Gates is not used in any way by NGENSO or the TOs to defer the progress of these works. Indeed, the introduction of Gates and the proposed CMP376 Milestones increases project developers' need for timely information on their connection in order to progress, for example, planning and Development Consent Orders; and
- The provision of open and transparent data to enable parties seeking to connect to make effective decisions and assess their risks.

Building on this point, it is not clear how NGENSO's decisions on its CPAs and attrition assumptions, which will inform its coordinated network design to deliver the connections in a particular Application Window, will be made sufficiently transparent so that applicants can understand the likelihood of 'capacity gaps' being released in the Connection Queue and, therefore, the opportunity for project developers to advance their Queue position. NGENSO must make this transparent and, indeed, more than this, it must be accountable for the decisions that it makes. In short, in the event that projects are not able to advance their Connection Date because 'capacity gaps' do not materialise due to NGENSO's assumptions on project attrition, project developers must not be penalised or wrongly exposed to further reform measures.

Lastly, we believe NGENSO's models needs to strike a better balance between the needs of NGENSO (and network operators) and the project developers that will be relied upon to deliver the investment in low carbon technologies necessary to meet net zero. Projects are becoming increasingly complex as developers are required to manage not only their interfaces with the electricity network and single fuel source, but also interfaces with new and emerging markets. It is vital that any reformed

Connections process is alive to and commensurate with these challenges from the developer's side, especially in an increasingly international investment environment where opportunities arise globally (as, for example, SSE's Energy Businesses are seeing).

It is for this reason that our support for TMO4 is contingent on the amendments set out in our response to Q12 below and reiterated throughout this response.

12. Do you think any of the four TMOs could be materially improved, e.g. by adding, removing or changing a specific aspect of the TMO? If so, what and why?

As set out above, we believe a number of changes are required for us to give our support to TMO4 and guard against unintended consequences. Specifically, we have identified the following key changes that, in our view, are required in order to proceed further with TMO4:

- The inclusion of two (shorter) Connection Application Windows per annum to smooth NGENSO's workload, lessen the risk to project developers of 'missing' a single annual Window and reduce the potential complexities of having to accommodate the proposed Reserved Developer Capacity (RDC) to facilitate small and medium Embedded Generation projects. These two Application Windows should fall at the same times each year with a 3-4 month period for NGENSO's coordinated network design (or batch assessment) process.
- At the point of application, project developers should be required to state their earliest requested (and feasible) Connection Date (taking into account their project-specific requirements, including planning, procurement, construction and commissioning) so that NGENSO can factor this information into any Offers made.
- A full Offer, complete with NGENSO's 'best view' Connection Date, should be provided at the first contract Offer stage (Stage 4 in Figure 1). It is proposed that this first full Offer reflects the earliest NGENSO (and respective TOs) can deliver the applicant's preferred Connection Date based on the outputs from NGENSO's coordinated network design process (including its latest CPAs) and the TOs' initial network plans (and timescales) to deliver the network works necessary to facilitate the connections within the batch assessment. Initial Queue position would also be allocated at this point.
- The criteria for first Offer Acceptance (Stage 5 in Figure 1) should be expanded to include evidence of meeting Milestone 3 (having secured land rights) from the Queue Management (CMP376) proposals.
- Aside from projects that receive special DESNZ designation, Gate 2 remains the point at which applicants become eligible to be considered for advancement. However, to avoid unintended consequences (including inadvertent changes to the GB technology mix), we believe it is key that Gate 2 is de-coupled from project developers receiving their first actual Connection Date and Queue position. By removing the 'high stakes' for reaching Gate 2 and expanding the Gate 2 criteria to include a requirement on project developers to have made / committed to making the first instalment of liabilities (in addition to the meeting of Milestone 1 from Queue Management (CMP376) proposals (i.e. having applied for planning consent)) we believe this will result in a better outcome.
- The opportunity for advancement is offered to projects meeting the Gate 2 criteria in order of Queue position. It is the customer's choice whether it accepts or rejects this opportunity for advancement. This may be considered a hybrid of RQM and RQM+, as presented by

NGESO in its consultation. Importantly, the scope for project advancement will be capped by the project's earliest requested Connection Date as stated at the point of application. Also updated would be the list of enabling works and liabilities.

Finally, none of the proposed models fully address applicants' need for early certainty on when their Connection will be delivered and the costs of doing so. Under all models, project developers remain exposed to the risk of TO delays or changes to meet the TO's statutory obligations or secure its necessary funding (albeit recognising that coordinated network design should help to counter this). To aid with this, as a minimum, we believe it is key that NGESO moves quickly to follow the recommendations of the Energy Data Taskforce and provide much greater information transparency relating to connections to all users. This will better allow applicants to assess and manage their project risk.

13. Are there any important TMOs we have missed?

Subject to the changes we have proposed to TMO4 throughout this response, we believe the proposed TMOs offer a suite of pragmatic, foundational models on which to facilitate this stage of engagement.

One of the biggest challenges with what has been presented to date is clarity of the details on how this would work in practice. The consultation (understandably) leaves a lot of detail to be worked through with stakeholders and agreed. It is vital that all parties are involved in this and reserve the right to moderate their support for the proposed reform until the practical implementation is explored (and confirmed) in more detail.

14. Do you think 'Submit Consent' is too early for Gate 2 in TMO2 to TMO4? If so, what milestone should be used instead and why?

Based on NGESO's proposed workings of Gate 2 (as per the consultation), we agree that 'Submit Consent' is not an appropriate determinant of a project's readiness to connect and therefore its first accurate Connection Date and Queue position. As such, we suspect it would have very little impact in terms of better 'stacking' and 'unblocking' projects in the Queue.

However, subject to the changes set out in our response relating to Gate 2 and what purpose Gate 2 serves in this revised process, i.e. it becomes solely focused on the opportunity for applicants to be considered for advancement, we believe 'Submit Consent' could work as the Gate 2 criteria. We believe there is also merit in expanding the Gate 2 criteria to include a requirement on project developers to have made / committed to the first instalment of liabilities. By requiring applicants to demonstrate not only their project's progression, but also their financial commitment to the network works required, we believe this will provide a more robust basis for advancement.

Chapter 7: Recommended TMO

15. Do you agree that TMO4 should be the preferred TMO?

Our support for TMO4 is conditional on:

- The changes set out in this response; and
- Appropriate resolution of the practical challenges that we see in implementing the proposed model, including, but not limited to the management of a national Application Window across all technologies.

We are less certain whether it achieves the following benefits as set out by NGESO, i.e. that it:

- Best facilitates quicker connections to the electricity Transmission system;

- Allows project developers to have a more active role in the process (e.g. be more involved in the design of their connection, or at least be kept more informed);
- Allows more efficient implementation of Pre-Application stage improvements;
- Allows more efficient resource allocation so that customers can receive consistent, skilled and timely engagement.

We believe these improvements could be attributed to any one of the four models presented if combined with the same TMAs or other tactical initiatives already in train. Our support for TMO4 is therefore based on putting in place a process that enables upfront coordinated network design and (as early as possible) certainty for project developers that the network related works to deliver their project's connection have been subject to full and proper network assessment that allows the TO the best opportunity to plan, prioritise and progress these works commensurate with delivering against the Connection Offer.

16. Do you agree with our design criteria assessment of the four TMOs? If not, what would you change and why?

We are reluctant to put too much weight on NGENSO's scoring against its Design Objectives and Criteria. Arguably, this is very subjective and considers the models through the lens of NGENSO rather than wider stakeholders.

Indeed, we believe there would be real value in NGENSO articulating the benefits that it expects this Connections reform to deliver. Elsewhere in this response, we have asked that NGENSO, for example, sets out what it expects the impact of this reform to be on its own congestion forecasts, but it would be helpful if NGENSO could also set out what it expects the impacts to be for the different impacted parties. In part, to flush out uncertainties, but also to ensure that it is clear to all parties what the intended benefits and impacts are.

Notwithstanding this, we would call out two key omissions:

- There appears to be no consideration of the practicalities of implementing the proposed models. Given the volume of connection applications in recent years, it seems a tall ask for NGENSO to assess a whole year's worth of applications and issue connection offers within a 6-9-month window, not to mention the year's-worth of Pre-Application engagement in advance of this in an even shorter 'window'. Further, we struggle to understand how the Application Window could be made to work on a national, all technology basis.
- There appears to be no consideration of the impact of the proposed models on inadvertently driving a rebalance of the technology mix. We believe this is an important factor given that this is not the intended outcome of the proposed models, yet we believe this could be an unintended consequence, particularly if Gate 2 is implemented as proposed in the consultation.

17. What are your views on the stated benefits and key challenges in relation to TMO4?

Again, consistent with our response to Q16, we believe there are additional key challenges not listed, including:

- The practicalities of NGENSO (and the TOs) being able to 'turn around' a whole year's worth of applications in a condensed timeframe;
- The practicalities of NGENSO (and TOs) running a national, all technology Application Window – and how project interactions will be identified and managed from both a network design and liabilities perspective; and
- How the transition from the current process to a new reformed process will be managed, including how individual projects that are already in their initial development phase of work will be managed.

In addition, whilst we commend NGENSO for seeking to future-proof the output of this reform process, we believe there are too many unknowns, uncertainties and lack of detail for stakeholders to give their blanket support to the plethora of 'Add Ons' being consulted upon in this consultation. We believe it is key that these are revisited as and when appropriate so that parties are able to be properly involved in the development of the necessary details so that stakeholders can assess the impacts of each of the 'Add Ons' in terms of their projects.

18. Do you think that there is a better TMO than TMO4? Whether that be TMO1 to TMO3, as presented, a materially different option, or a refined version of one of the four TMOs we have presented?

We are minded, subject to the conditions and amendments set out in this response, to support TMO4.

This conditional support for TMO4 is largely predicated on the role of coordinated network design early in TMO4. Fundamentally, it is investment in network capacity at pace and volume that will resolve the current connection challenges and we believe that TMO4 should better facilitate this investment through more deliverable Connection Offers (from the perspective of both networks and project developers). TMO3, which is the only other TMO to incorporate coordinated network design, does so at a later stage. As such, we believe it would be less effective than TMO4 and would defer NGENSO's (and the TOs') key work that is necessary for project developers to be able to progress their projects.

Chapter 8: Key Customer and Technology Type Adjustments

T/D Interface

19. Do you agree with our views on DNO Demand in respect of the TMOs?

We agree that whatever TMO is eventually adopted, it should be capable of being applied consistently to all parties where their connection triggers a need for additional network reinforcement at Transmission level.

20. Do you have any views on the appropriate mechanism to incentivise accurate forecasting of requirements and avoid more RDC than is necessary being requested by DNOs?

We believe a more effective and consistent approach across all requesters of Transmission capacity is to design the process around two Application Windows per annum. Whilst we accept that this creates more of a continuum of applications for NGENSO, we believe this allows for a 'smoother' process that better meets the balance between NGENSO's (and network operators') needs and those of project developers. Further, we believe this negates the need for potentially complex inter-Window mechanisms (as proposed through the provision for Reserved Developer Capacity (RDC)) to better accommodate connections at a Distribution level.

21. Do you agree with our views on the process under which DNOs apply to the ESO on behalf of relevant small and medium EG that impact on or use the transmission system, including that (under TMO4):

- i) DNOs should be able to request RDC via application windows to allow them to continue to make offers to EG inter-window; and**
- ii) resulting offers should be for firm access until relevant EG has reached Gate 2 (at which point they can request advancement and an earlier non-firm connection date)?**

We believe introducing a process that allows DNOs to apply to NGENSO for Transmission capacity is far from straight forward and may introduce inefficiencies and perverse drivers / outcomes. As per our

response to Q20, we believe a better (and more equitable to all requesters of Transmission capacity) solution would be to design the new connections process around two Application Windows per annum, which DNOs (as 'agents' for other applicants connecting at Distribution) could use alongside all other applicants.

Directly Connected Demand

22. Do you agree that directly connected demand should be included within TMO4 and that the benefits and challenges are broadly similar as for directly connected generation?

We are minded to agree that directly connected demand should go through the same process in order to ensure a level playing field. Assuming a batched assessment of applications is part of the solution, we believe it is key that all applicants in the relevant Application Window are part of this and considered in the outturn network design; not least (for example) because an application to locate a significant level of demand may be highly relevant, in terms of network asset needs, when considering the coincident application of nearby generation or storage.

Offshore

23. Do you agree that TMO1 to TMO3 would require a separate offshore process, and that this would result in material disbenefits?

Given a coordinated approach involving a holistic or 'batched' assessment is already deployed for offshore projects, it is our view that any process that does not align with this approach would automatically create a parallel process resulting in an inefficient planning of coincident onshore works.

24. Do you agree that TMO4 is the most aligned to the direction of travel for offshore projects? If not, why?

We agree that TMO4 closely mirrors the gated holistic design process that is currently in place for offshore projects. However, as proposed by NGENSO, TMO4 allocates a Queue position at the point when a planning consent is submitted. This is different from the offshore approach.

25. Other than the Letter of Authority differences are there any other TMAs which have specific offshore considerations?

Given that the Offshore Transmission Network Review's 'enduring regime' is yet to be developed and consulted upon, it will be important to ensure that any proposals arising from that consultation can work alongside the enduring connections process set out in this Connection reform consultation. In particular, any proposals to potentially allocate grid connections as part of seabed leasing should ensure that this allocation provides the required certainty for developers to bid in a CfD round and, therefore, capacity and Connection Dates allocated at this early stage should be final rather than a 'backstop' provision.

Network Competition

26. Do you agree with our views on network competition in the context of connections reform, including that TMO4 is the option which is most aligned with network competition as it includes the most design time at an early stage in the end-to-end process?

Whilst mindful that Network Competition can be considered a contributor to Connection delays, we suspect TMO4 is the option most aligned with Network Competition for the reasons set out in the consultation.

Chapter 9: Supplementary Target Model Add-ons

27. Do you agree with our initial recommendation related to each of the TMAs within this chapter? If so, why? If not, what would you change and why?

TMA	TMA Title	SSE Energy Business' Response
H	Structure and value of application fee	As per our response to Q5, we are minded-to agree with NGENSO's proposal to introduce a nominal Pre-Application Stage fee. We agree that any wider review of the methodology for how fees are determined (subject to Ofgem approval) should be revisited later in this process once a decision has been taken on the high-level model.
I	Criteria for ESO to reject an application	<p>Consistent with the position stated throughout this response, we believe it is key that NGENSO does not seek to introduce future-proofing measures that enable future policy decisions to be enacted without the need for appropriate stakeholder engagement in the development of this detail, as well as stakeholder consideration of the associated impacts. Instead, we believe it is key that these changes are revisited at the appropriate point in time once stakeholders have full visibility of the context in which they would be applied.</p> <p>We believe it is sufficient to note at this stage that the model does not preclude more advanced stages of reform, should this later be required.</p>
J	Optionality provided in an Offer	We agree that this option should continue to be available to those that want it (and pay for it). However, we agree that, for this to be manageable, the core focus should be on the provision of a single offer.
K	Capacity products in an Offer	<p>We fully support steps to better define products on offer. However, this must be done in accordance with due and proper process.</p> <p>We are concerned that NGENSO's product review is overly narrow. We would suggest that if NGENSO is serious about making capacity available to those parties that want it, it would look at more innovative ways (over and above the current TEC trading tools) of permitting parties to transfer capacity (TEC) rather than just clarifying the existing measures.</p>
L	Requirements to accept an Offer	<p>As set out in our response, we believe there should be additional requirements that applicants have to meet to accept an Offer, but these differ from the TMAs proposed in the consultation.</p> <p>In this response, we propose that applicant's acceptance of their (first) full Offer should be contingent on the submission of evidence that they have met Milestone 3 of Queue Management (CMP376) proposals (i.e. procurement of land rights).</p>

M	Timeframe for updating contracts	<p>As set out in our response, we believe Gate 2 should act as a trigger for potential advancement. Any projects able to take up the opportunity of advancement should have their contracts updated at this point. We suspect more frequent contract review outside of this process is likely to be unduly resource-intensive for all concerned.</p> <p>However, if NGESO was to propose an alternative design to deliver a party's connection, we would expect that party to be notified and their contract updated ASAP.</p>
N	Criteria for ESO to reject a modification	<p>We are minded to support NGESO's proposal to formalise guidance on acceptable changes. This should be subject to stakeholder engagement on the requisite detail to ensure that it is appropriately balanced.</p>
O	Secondary process for a defined changes to a connection	<p>We are minded to agree that this is revisited once there is more clarity on the detail of the proposed reform and emerging model. Only at this stage will all parties be able to fully assess and understand the implications of any Connection Offer changes going through the reformed process or a further secondary process yet to be defined.</p>
P	Dual track process for priority projects	<p>We are minded to agree that all projects should have to follow the same process in order to ensure a level playing field (and protect NGESO from unduly discriminating between projects). However, if appropriate, we would suggest that this could be revisited once there is more clarity on the proposed reform and what is in scope of the definition of 'priority' projects.</p>
Q	Financial recompense for contract changes triggered by ESO or TO	<p>We are minded to agree with the recommendation set out by NGESO. However, it is important that the risks and challenges borne by project developers in bringing projects to market are not overlooked in this reform process. Developers of low carbon projects will be key to meeting net zero targets and driving the energy transition. It is key that the regulatory and market frameworks that impact these projects recognise these risks and seek to provide as much certainty as possible to foster investor confidence; especially as we see the opportunities for investors increasingly being considered in the context of wider, global, opportunities.</p>
R	Management of underused capacity	<p>We do not believe the proposals under TMA R are practicable. We consider parties' needs and requirements for TEC to be so varied, that to introduce a UIOLI mechanism that would target all parties appropriately would be impossible. Further, we believe there are other, better ways of ensuring capacity is made available, including creating more attractive capacity products, enhancing the existing TEC trading tools and active Queue Management.</p>
S	Dispute process	<p>We are minded to support this.</p>

Chapter 10: Detailed Design, Implementation and Transitional Arrangements

28. Do you agree with our current views in respect of the implementation period?

We welcome NGESO's recognition of the importance of stakeholder input and challenge in designing and implementing Connection reform and, where the case (along with the requisite details) for reform is clear, we agree that every effort should be made to implement these changes as soon as possible. We believe that the existing industry processes and open governance frameworks (including provisions for urgency) are commensurate with facilitating this and we would caution against views that suggest otherwise. We would urge NGESO (and wider stakeholders) to use these existing, well-established frameworks (with the associated 'checks and balances') unless there is clear evidence that these are not fit-for-purpose.

In the interests of moving quickly (and doing this in a more manageable way), we believe there would be much sense and value in engaging the industry now (i.e. over summer / autumn 2023) on key aspects of the likely reformed process, for example:

- How the batched assessment of projects falling within an Application Window might be managed in practice;
- What changes (including IT changes) might NGESO and the TOs need to enact to align with the proposed reform;
- Stakeholder engagement on the potential non-licence related Code changes that will be required that can be progressed now; and
- Stakeholder engagement on the potential licence conditions that will be required.

We do not believe that work on these four items needs to wait until any NGESO recommendations or subsequent Ofgem decisions are made, but rather serve as valuable groundwork and input to this process.

As stated elsewhere in this response, we would caution against trying to design too much into the process at this stage. It should be sufficient to test whether the proposed reform model could be adapted at a later stage to, for example, accommodate projects that are awarded Government support status. By keeping this relatively focused and simple at this stage, we believe stakeholder support will be more forthcoming. Too many variables that cannot be modelled or their potential impacts understood at this stage in the process is not helpful. It is our view that by taking this approach, we can bring down implementation timescales substantially.

29. Do you agree with our current views in respect of transitional arrangements? What are your views on how and when we should transition to TMO4?

The key issue for us in relation to the transitional arrangements is how projects with existing Connection Offers might be impacted. For example, how existing Connection Offers might be impacted if they were to submit a 'Mod App' after the new Connections model goes live. If these projects were to become subject to a batch assessment, the output of which resulted in a very different network design solution to that in their original Connection Offer, this could raise some serious concerns for projects that are already progressing. The consultation is silent on this, but clarity on this level of detail is key to giving project investors greater certainty over the reach and potential impact of this Connection reform work.

30. What further action could Government and/or Ofgem take to support connections reform and reduce connection timescales, including in areas outside of connections process reform?

Aside from the work planned, i.e. Government and Ofgem's joint Action Plan, we believe both Government and Ofgem have a key and central role to play in Connections Reform, acting in the

interests of all stakeholders and balancing the outputs from this reform with the wider industry reforms also at play.

Importantly, we do not believe Government and Ofgem's involvement should be contingent on the NGESO recommendations that flow from this consultation, albeit we recognise that this consultation serves as a very useful tool in setting out the emerging issues and approaches that need to be delved into and considered further. We believe Ofgem in particular could take a key role now in facilitating the early engagement across the industry on how some of the emerging proposals might work in practice, including, for example, the batched assessment within any Application Window and the licence changes that might be required to enable the eventual reforms. To this end, we are copying this response to Ofgem.

Finally, we would like to take this opportunity to reiterate the importance of Ofgem in ensuring that any changes required as a result of this reform work are taken forward through due and proper industry processes. It is important that parties do not assume, erroneously in our view, that these existing processes are not fit-for-purpose or sufficiently agile to cope with developing, at speed, the necessary details that will be needed with this reform.