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Connections Reform

Consultation Response Proforma

Your feedback is important to this process. Please take this opportunity to provide any feedback that you may have. To aid your response, each question is linked back to the relevant document for ease of reference.

Please provide your feedback using this Proforma and sending an electronic copy to box.connectionsreform@nationalenergyso.com by **5pm** on the closing date of **2nd December 2024**.

We encourage early submission ahead of the deadline where possible to aid the processing of responses.

Respondent Details	
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Which category best describes your organisation?	<input type="checkbox"/> Consumer body <input type="checkbox"/> Demand <input type="checkbox"/> Distribution Network Operator <input type="checkbox"/> Generator <input type="checkbox"/> Industry body <input type="checkbox"/> Interconnector • Storage <input type="checkbox"/> Supplier <input type="checkbox"/> System Operator <input type="checkbox"/> Transmission Owner <input type="checkbox"/> Virtual Lead Party <input type="checkbox"/> Other
Is this response confidential?	<input type="checkbox"/> Yes – I do not wish for this response to be shared publicly; however I understand it will be shared with Ofgem • No – I am happy for my response to be available publicly

Section 1 – Policy

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You can find the relevant information in the **Great Britain's Connections Reform: Overview Document** – [Link](#)

1. Do you agree with our intention to align the connections process to Government's Clean Power 2030 Action Plan?

You can find the relevant information in **Section 2 – Context**

Broadly speaking, Field supports NESO's intention to align the connections process to Government's Clean Power 2030 Action Plan, subject to some important points and amendments as detailed below.

Field strongly believes that in order for the connections reform to be a success it is fundamental that the assessment of technology, capacity, location/spatial plan and the split of distribution and transmission targets are correct.

Field develops, owns and operates battery storage projects across the UK and Europe. Field notes that the points raised below are particularly pertinent for battery storage, which it considers need to be assessed differently to other technologies both in terms of capacity target figures per spatial zone and Gate 2 Readiness criteria. Full explanations on the need for these distinctions are explained in full in our answers below.

Technology

Field thinks that NESO rightly highlighted the importance of keeping options open (page 7 of main advice, extract below) in the face of uncertainty and thinks this is critical for the connections queue.

- **Keeping options open.** Our pathways recognise various uncertainties, including on demand and deliverability of certain options. In the face of these uncertainties, and the need to manage delivery risk, there is high value in pursuing multiple options where they exist and encouraging competition between, not just within, different technologies.

Field recommends that more Stage 2 offers are issued for interchangeable technologies (e.g. demand-side flex and short-duration storage; or on – and off-shore wind) than are required to mitigate the risk of another technology underdelivering.

Methodology behind the target capacity figures

It would help developers if greater clarity was given to the analysis that informed the capacity target figures; this is the key part of the Connections Reform that customers will analyse to assess project/investor risk. Furthermore, developers could provide meaningful insights to which may impact the capacity target figures that may not have been considered by NESO.

It is critical to consider all of the services that a technology type can provide when making this assessment. For example, additional batteries/storage in regions with system operability issues would reduce the need for NESO to procure 'designated projects' in those areas.

Location/Spatial plan

Field notes that for Connections Reform to be successful, it is completely critical that the spatial plan is correct both in terms of zonal and technology requirements. The spatial plan should be defined based on both what is **deliverable** (i.e. an assessment of the number and type of projects that can actually be delivered) **and what is required by the system** (i.e. a detailed analysis of short-circuit level deficits, constraints and reactive power requirements).

Errors in the spatial plan at this stage could have catastrophic effects of the delivery of CP30, with zones being left undersupplied where insufficient, 'ready' projects of a suitable technology exist (e.g. batteries in the North England) and conversely, 'ready' and needed projects not forming part of the Phase 1 queue (e.g. battery projects in North Scotland which can heavily aid constraints and short-circuit level deficits).

Field understands that the draft spatial plan delivered in the CP30 advice to government was based on analysis of where there already is the highest concentration of 'ready' projects i.e. projects in construction or with capacity market contracts and not where the biggest system need is. Field also understands that whilst some further more detailed project specific analysis has taken place, this has not been at the granular level necessary to inform regional targets. This has been confirmed to Field by both the NESO Network Planning team and the Energy Insights Team who were instrumental in feeding into the Spatial plan.

Since this time, it appears that connection reform is being based upon this spatial map of 'ready' projects, rather than where the actual system need is, which is incorrect, and as noted above, likely to lead to catastrophic effects.

This is particularly relevant for battery storage where lead in times are much shorter than e.g. offshore wind and there is a lot more spatial flexibility.

On the draft spatial plan, Field query whether the proposals correctly:

- A. Consider the number of projects with pre-2030 grid connections in the TEC register and the progress developers have made with planning applications for those projects. Field's analysis for batteries is that the 'pink transmission zones' in Scotland will be oversupplied and the zones in England and Wales will be undersupplied or have little headroom. Field recommends adjusting the balance to reflect where development effort has been targeted, particularly where this coincides with critical system need (e.g. SCL and stability constraints in North Scotland).
- B. Allocate short- and long-duration storage *behind* sources of constraint rather than too close to or in front of them;
- C. Account for grid-forming inverters' ability to provide Short-Circuit level (SCL), most relevant in the North of Scotland; and
- D. Allocate LDES where it is needed (e.g. East Anglia and the far north of Scotland). We think it is odd that more LDES hasn't been included in the north of Scotland where a lot of pumped hydro developments are being progressed.

In particular, the published requirements for short-duration storage in the north of Scotland (which is very low) seems inconsistent with both NESO's constraints analysis and the

short-circuit level deficits NESO has highlighted. We recommend NESO add capacity in this area in particular but more generally suggest adding 5–8 GW of additional storage capacity across the transmission zones to account for any under delivery of distribution-connected assets and/or demand side flex.

Field is also concerned that the spatial plan relies too heavily on Scottish Power Transmission completing connections for many new storage projects, rather than sharing delivery more evenly between both of the Scottish TOs.

Transmission vs distribution (and associated deliverability)

The deliverability of projects, particularly the volume of projects required from the distribution network needs to be carefully considered. Based on the Draft Impact Assessment figures for BESS (25GW at Transmission and 8GW at Distribution), Field's view is that NESO are expecting too much capacity to come from the distribution network and that these figures will be incredibly difficult to achieve due to the following factors:

1. The number of distribution projects required to be delivered to achieve this target e.g. on average, 1 GW of capacity could be delivered by 2–3 transmission projects or 10–25 Distribution projects). Attrition and TO resources are of particular concern in this deliverability. For further context, the solar CP30 target at Distribution is 43 GW, but the maximum annual delivery of solar to date has been 3 GW
2. Field has extensive experience of constructing 20–50 MW scale distribution-connected BESS projects and views anything less than 40 MW at 33 kV and 80 MW at 132 kV is unlikely to be economic
3. Field is doubtful that the TOs could deliver the additional supergrid transformers required for the level of increased distribution-connected generation proposed as well as the 80 projects that are essential for CP30 as detailed in NESO's guidance

Clarification on technology type classification

Clarification is required on two technology types: co-located and storage:

1. Co-located BESS/solar – NESO have stated that how these projects are assessed will be based on how they intend to operate. E.g. if there is import capacity requested, then they will be treated as both BESS and PV. If export only, they will be treated as solar only. Based on this, Field requests the following clarifications:
 - Does NESO have this data available to them/will it have when assessing the queue?
 - Will co-located BESS sites have the opportunity to provide typical operating profiles to justify how they should be considered?
 - In absence of this information currently, which technology pot have all co-located projects been included in?

Based on the above variables, Field suggests that It may be easier for NESO to categorise 'Co-located BESS+Solar' as a separate technology type.

2. Storage – Across different consultation documents, 'storage' has been referred to under various terminologies: Storage/LDES/Pumped Storage/Batteries. Clarity is required on

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the separation of these technology types and associated capacity targets. (Noting in particular that in the Grid Code the definition of 'Storage User' does **not** include Pumped Storages and therefore batteries and Pumped Storage are treated separately even though they could have the same duration)

2. Do you agree with our proposal for overall design 2 (that the reformed connections queue should be limited to and prioritised to only include ready projects that align with Government's Clean Power 2030 Action Plan, NESO Designated Projects, and directly connected demand projects outside the scope of Government Clean Power 2030 Action Plan)?

You can find the relevant information in **Section 5 – Our overall preferred connections reform design**

Field broadly supports the proposal for overall design 2, subject to some amendments as detailed below.

Exemption from CP30 alignment

p36 of the Overview Document notes the following on projects which will be exempt from CP30 realignment:

"Note that under overall design 2, NESO will ensure that projects already under construction and due to commission in 2026 or earlier will not be adversely impacted by aligning the queue to the CP30 Plan".

Field believes that the exemption needs to be extended to projects:

- ***Due to commission up to 2027; or***
- ***Which have taken a Final Investment Decision (FID); or***
- ***Which have received a governmental or regulatory subsidy contract e.g. capacity market or CfD***

For projects due to commission up to 2027, a FID would likely be expected in 2025. Significant costs will therefore have already been borne by the developer, including ordering of long lead items for £millions, and it is unlikely that the TMO4+ process will have concluded in advance of FID having been taken.

For bullet points 2 & 3, Field believes that these criteria align with Milestone 7 – Project Commitment as defined in CUSC Section 16 (see extract below) and therefore the exemption could be applied to any project due to commission up to 2027, or which has reached Milestone 7 of CUSC Section 16.

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Milestone 7) Project Commitment	This milestone demonstrates that the project has the necessary commitment or backing for it to proceed.	One of the following: • Binding contract issued by the User for main plant equipment; or • Capital contribution payments made to The Company in advance of connection; or • A decision paper from a formal, minuted meeting of the User's board of directors evidencing Final Investment Decision (FID); or	See table (varies with lead time)
		• award of a governmental or regulatory subsidy which provides financial support or incentive to the User's project.	

Field believes that applying exemptions to projects which have met any of the above criteria rightly acknowledge projects which have demonstrated significant progress against milestones, in line with “first ready, first served”, and given their advanced status stand a very good chance of being delivered.

For projects with governmental or regulatory subsidy contracts, the developer would be subject to significant additional penalties if they were not able to meet contracted generation requirements as a result of a change in connection date.

Uncertainty about which projects will be exempt from CP30 alignment creates investment risk, thereby compromising the deliverability of the CP30 capacity targets. The proposal will also reduce competition which is important for delivering savings/innovation to consumers.

Gate 2 Readiness criteria for BESS/ short-duration storage

Field believes that the Gate 2 readiness criteria should be different for BESS/ short-duration storage as Securing Land Rights is far less onerous for these projects than e.g. wind/solar/nuclear; batteries are much more energy dense than other technologies and therefore require a much smaller land take generally covered by a single landowner.

Field therefore considers that requiring batteries to only demonstrate land rights to meet the Gate 2 Readiness criteria is not a significant enough hurdle to prevent speculative projects remaining in the Phase 1 queue or to address the oversupply of batteries. ***Field proposes that to better reduce the queue for BESS, the Gate 2 Readiness criteria should require Land Rights and Planning Submitted.*** This would greatly help reduce the queue to required levels.

'Ready' projects

Ready projects are defined as i) 'ready' projects 'aligned with' the CP30 Plan; ii) 'ready' projects not known at the time of the CP30 Plan or otherwise outside scope of CP30 Plan

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On point ii), Field agrees theoretically, however NESO need to carefully consider the realistic delivery timescales of these projects. If a project is 'not known at the time of CP30' (mid 2025), what are the chances it will be deliverable by 2030?

Attrition

Page 40 of the Overview document notes that one of the benefits of design 2 is that it "Supports an efficient transition to SSEP by not allowing the new reformed connections queue to exceed the capacity (by technology and location) set out in the 2035 pathway in the CP30 Plan", however **Field notes that project attrition also needs to be factored into the design from the outset.** Delays associated with large construction projects in general, particularly at the scale of build required for CP30, also need to be considered.

As noted in our response to question 8, **the use of 2035 targets would help mitigate attrition and delivery risks for 2030 for a lot of technologies; however, where 2035 targets are <30% more than 2030 target, we recommend NESO allow more of that technology to receive a Stage 2 offer.** This applies to onshore wind (107%) and battery storage (106%) most notably. **This is especially true given that the CP30 spatial plan was based on NESO's assessment of where projects are being constructed or have CM contracts or some very project specific planning status analysis, as opposed to where the real system operability need is. Field's experience is that attrition for battery projects will be at least 30%. Therefore Field recommends 'over-filling' the queue by at least 43% (1-1/0.7).**

APPENDIX E, Connections Delivery Body (CDB) Criteria: (page 105-109)

'Measure reduces average connection timescales' is listed as a CDB criteria. Under Design 2 this criterion scores Green, but under Design 1 scores Yellow. Design 1 prioritises all ready projects, rather than reserving bays for NESO designated/unknown projects. Clarification is requested on how can design 2 can score higher?

Field also believes system security and flexibility should appear as one of the design assessment criteria.

Measure supports improved coordination across system boundaries is also listed as a CDB criteria.

Clarification is requested on what is a 'consistent' approach across Transmission and Distribution? Currently the breakdown is:

Storage: 25GW at Transmission, 8GW at Distribution.

Solar: 8GW at Transmission, 43GW at Distribution.

Field query: How was this determined? How is it consistent? Should more of an emphasis be put on deliverability?

3. Do you think all 'ready' projects should be included in the reformed connections queue (overall design 3)? If so, how would you propose that we mitigate risks to consumers or developers of material misalignment to the SSEP?

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You can find the relevant information in **Section 6 – Assessment of alternative design for connections reform**

No, Field does not think that all ‘ready’ projects should be included in the reformed connections queue as per overall design 3.

This approach does not ensure that the queue remains aligned with CP30 Plan pathways or the SSEP, nor does it help solve the issue of oversupply (especially for batteries).

Clarification is also requested – Under Design 3, once the Gate 2 to CP30 alignment exercise is completed, if a prioritised technology appears in the next Tranche, will that leapfrog up the queue? Or is the queue position fixed (assuming milestones have been met)?

Field does think that NESO needs to better consider attrition, however.

4. Do you agree that the reformed connections queue should initially focus on the 2035 time horizon?

You can find the relevant information in **Section 4 – Key building blocks for aligning connections to strategic energy plans**

1 – Time Horizon 2035

Clarification required: Do you mean “2030 and 2035 time horizons”? The wording of the question implies that 2030/2035 may be treated similarly.

Field agrees with initially focussing on 2030/2035, however **Field thinks that there should also be additional headroom to account for attrition included in the 2030 targets rather than simply substituting in 2035 projects** (please also see our response to question 8 on attrition).

Applying zero attrition given the inherent risks in project delivery will inevitably result in undersupply; this is due to the relatively high volume of attrition expected (based on Field’s experience in battery development and industry data). This is especially true given that the CP30 spatial plan was based on where projects are being developed / have CM contracts / have planning as opposed to where the real system operability need is.

In order to reduce the risk of not reaching 2030 targets, **Field believes that a robust methodology for attrition would be to focus on 2035 targets when considering 2030, provided that the requirements for 2035 are at least 30% more than 2030.** In this way, natural attrition that occurs when delivering a portfolio of projects will be incorporated in the methodology from the outset, and in the low probability that all Phase 1 2030 projects are successfully delivered, 2035 targets will have been achieved by 2030. Further, this will have the added benefit of removing additional administrative resourcing associated with Phase 1 and Phase 2 re-ordering / queue management. Importantly, in the case that 2035 targets are <30% more than the 2030 target, we recommend NESO allow more of that technology to receive a stage 2 offer. This applies to onshore wind (107%) and battery storage (106%) most

notably. ***Focusing only on 2030 targets and with no allowance for attrition risks that insufficient progress is made on Phase 2 projects and they are therefore not capable of being substituted into Phase 1 if required. This is especially true given that the CP30 spatial plan was based on NESO's assessment of where projects are being constructed or have CM contracts or some very project specific planning status analysis, as opposed to where the real system operability need is.*** Field's experience is that attrition for stage 2 (as currently defined) battery projects will be at least 30%. Therefore we recommend 'over-filling' the queue by at least 43% ($1-1/0.7$).

NESO highlights the importance of keeping options open particularly in the face of uncertainty on deliverability and therefore notes that there is high value in pursuing multiple options; Field agrees that this is critical when defining the reformed connections queue. This therefore further supplements our position above that attrition must be accounted for from the outset, and focusing on the 2035 targets ensures these options are kept open.

2 – Only 'ready' CP30 Plan aligned projects or 'ready' projects not known or out of scope of CP30 (page 32)

Whilst Field is in agreement with CP30 in general, we believe that the capacity target figures per spatial zone for batteries should be reviewed, as per the 'Location' heading in our Question 1 answer.

The attrition point alluded to on page 31 of the Overview document could be addressed by simply implementing the proposal discussed above (2035 targets on a 2030 timescales, modified for onshore wind and batteries).

'Ready' projects that were not known at the time of the CP30 Plan or that are otherwise outside the scope of the CP30 Plan:

Field agrees generally with this approach but NESO needs to carefully consider the realistic delivery timescales of these projects. If a project is 'not known at the time of CP30' (mid 2025), what are the chances it will be deliverable by 2030?

Clarification is also required on the following points: i) Does this apply to all Demand? Which demand projects are deemed to 'support GB's industrial strategy'.

Implementation Questions

You can find the relevant information in the **Great Britain's Connections Reform: Overview Document** – [Link](#)

5. Do NESO's preferred options against each of the variables discussed in the Overview Document best deliver efficient alignment to Government CP30 Plan?

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You can find the relevant information in **Section 5 – Our overall preferred connections reform design** and **Section 7 – Further variables and options to align connections reform with strategic energy planning**

Field agrees with Overall Design Option 2 being the preferred option, which we take to also include “ready NESO designated projects”. We were unclear why these weren’t explicitly included in options 2 and 3 as they were for option 1.

Field views it as crucial that as stated under the current proposal that “NESO will ensure that projects already under construction and due to commission in 2026 or earlier are not adversely impacted by aligning the queue to the CP30 plan.” As stated in our response to question 1, we also recommend that:

- **The commissioning date for exemption should be extended to 2027; and**
- **The exemption should be extended to all projects with CM or CfD contracts, or which have passed FID.**

Field notes that when assessing over – or under-supply, NESO have categorised all battery energy storage projects as short-duration and not provided an assessment of LDES projects. Field requests that NESO provide this analysis. Field has presented evidence to NESO to prove that BESS projects can be competitive with pumped hydro up to 8-12 hour duration. **Field therefore views it as critical to assess battery projects according to their duration as well, rather than assuming all are short duration.**

As noted in our response to question 1, ‘storage’ is referred to under various terminologies across different consultation documents: Storage/LDES/Pumped Storage/Batteries. **Clarity is required on the separation of these technology types and associated capacity targets.**

In the rest of this response, Field will consider each of the “Further variables in turn”

Approach to demand projects

Field agrees with the proposal.

Approach to oversupply

Fundamental to connections reform being a success is getting the assessment of technology, capacity and location correct, and also the split of distribution and transmission. Field thinks that NESO rightly highlighted the importance of keeping options open (page 7 of main advice, extract below) in the face of uncertainty and thinks this is critical for the connections queue.

- **Keeping options open.** Our pathways recognise various uncertainties, including on demand and deliverability of certain options. In the face of these uncertainties, and the need to manage delivery risk, there is high value in pursuing multiple options where they exist and encouraging competition between, not just within, different technologies.

On technology and capacity, Field notes that the additional ~8GW of demand flexibility suggested in NESO’s guidance can be interchanged with short-duration storage and therefore it is worth planning to deliver more of both in case one underdelivers. How NESO

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plans to fill the stability gap most acute in the north of Scotland is also uncertain but grid-forming inverters provide a cost-effective solution here.

On location, Field query whether the proposals correctly:

- A. Allocate short-and long-duration storage behind sources of constraint rather than too close to or in front of them**
- B. Factor in grid-forming inverters to be able to provide Short-Circuit level (SCL), most relevant in North Scotland, and**
- C. Locate LDES where it is needed (e.g. East Anglia and the far north of Scotland) as opposed to where pumped hydro developments are located.**

Field is also concerned that the spatial plan relies too heavily on Scottish Power Transmission rather than sharing the onus of delivery more evenly between all of the Scottish TOs.

On the split between distribution and transmission, **Field's view is that NESO are expecting too much capacity to come from the distribution network** – Field has extensive experience of constructing 20–50 MW scale distribution-connected BESS projects and views anything less than 40 MW at 33 kV and 80 MW at 132 kV as uneconomic. Furthermore, we are doubtful that the TOs could deliver the additional supergrid transformers required for the level of increased distribution-connected generation proposed as well as the 80 projects that are essential for CP30. We are therefore concerned that insufficient projects will be able to progress.

In particular, the published requirements for short-duration storage in the north of Scotland seems inconsistent with NESO's constraints analysis and the short-circuit level deficits, and we understand that this has not been factored into the CP30 spatial plan included in the advice to government. Field recommends NESO add capacity in this area in particular but more generally suggest adding 5–8 GW of additional storage capacity across the transmission zones to account for any under delivery of distribution-connected assets and/or demand side flex.

Field would also note that as every additional storage site erodes the price spread (and therefore its own revenue stream) the growth of storage is therefore inherently self-limiting. This characteristic applies far more to storage than to wind / solar where revenues may be protected by CfDs. So whilst the existing storage queue looks very large now, the reality is much of it will not be economic to build even if it could secure land and planning. This helps address the issue of oversupply.

Undersupply

Field is doubtful that there are spare bays still available in areas where it is physically possible to develop projects. For example, there may be spare bays available at central London substations, but it would not be possible to deliver projects there due to space constraints. In any case, if spare bays did exist, multiple developers chasing after them is inefficient in comparison with developers that have ready projects in other areas progressing those projects instead.

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In general, battery projects are oversupplied. However, Field has analysed battery projects in the 8 zones in NESO's guidance from the perspective of TEC register connection dates and planning application progress (based on the Solar Media Portal database which Field subscribes to).

- North of Scotland has ~6GW of pre-2031 projects that are progressing through planning vs a requirement of ~1.7GW
- South of Scotland has ~20GW of pre-2031 projects are progressing through planning vs a requirement of ~4.7GW
- North of England has ~4GW of pre-2031 projects that are progressing through planning vs a requirement of ~7.9GW (a large under-supply)
- East of England has ~0.7GW of pre-2031 projects are progressing through planning vs a requirement of ~1.7GW (a large under-supply)
- Midlands has ~1.2GW of pre-2031 projects are progressing through planning vs a requirement of ~2.7GW (a large under-supply)
- Wales has ~1.4GW of pre-2031 projects are progressing through planning vs a requirement of ~0.8GW
- South West has ~1.7GW of pre-2031 projects are progressing through planning vs a requirement of ~2.8GW (a large under-supply)
- South East has ~3.8GW of pre-2031 projects are progressing through planning vs a requirement of ~3.8GW

Field therefore concludes that using adjacent zones for substitution for undersupply does not seem like the optimum approach e.g. under-supplied regions in England are often adjacent with other under-supplied regions. Instead, substitution for undersupply should be granted to projects that are already 'Gate 2 ready', and particularly in the two over-supplied regions in Scotland. Whilst it is noted that both the North and South of Scotland are oversupplied, Field would recommend preference is given to the North of Scotland region to ensure Scottish Power Transmission are not overloaded. TO resource is expected to be a key constraint in the delivery of CP30.

Attrition

Field's experience of projects reaching a Final Investment Decision is that this is a substantial milestone which is very hard to achieve, with a lot of projects being unsuccessful at this stage due to a variety of reasons e.g.: costs are too high making projects uneconomic; planning not granted or planning conditions too onerous/expensive to implement; cannot secure required land rights at a price that makes the project viable (e.g. for cable route); regulatory/code changes make projects uneconomic; market changes (e.g. gas price); cannot secure debt.

Field's experience of a high rate of attrition for projects is also shared by Cornwall Insight who report that nowhere in Britain currently exceeds a 20% success rate of renewable energy projects proceeding through planning. This statistic is especially relevant given that the current proposed Gate 2 Readiness criteria does not require planning to have been submitted, meaning that the attrition rate is expected to be even higher. (N.B. **Field also thinks that the**

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Gate 2 Readiness Criteria should be strengthened to include planning submitted for non-DCO battery projects. See q13.)

Field therefore thinks it is a good idea to issue Stage 2 offers to projects that are needed for 2035 from the outset and hope DESNZ provides a 2035 target to ensure NESO to do so. For onshore wind and batteries, Field recommends going beyond the 2035 level because these technologies are only expected to grow by 7% and 6% respectively, which isn't sufficient for attrition.

However, Field also suggests going further than this, reflecting on NESO's advice of keeping options open in the face of uncertainty. **Where technology types are interchangeable (e.g. (i) demand flex and short-duration storage or (ii) onshore and offshore wind), Field recommends NESO make the CP30 connection queue longer to keep their options open in case of underdelivery of either. Field also recommends NESO factor in the potential for underdelivery in the distribution network. Field's suggestion is to mitigate these risks as well as the risk of attrition caused by the reasons above by increasing the size of the CP30 queue accordingly.**

This is especially true given that the CP30 spatial plan was based on NESO's assessment of where projects are being constructed or have CM contracts or some very project specific planning status analysis, as opposed to where the real system operability need is.

If this longer list is created, Field agrees that 2031-2035 projects shouldn't be replaced before SSEP1 is available.

Optimal use of network

Field disagrees that NESO should allocate projects to the transmission or distribution network or voltage levels because of differences in charging regimes affecting projects' economics and/or ability to provide services (e.g. stability or inertia).

Field thinks there is merit in minimum criteria for minimum MW capacities at different connection voltages. E.g. 100 MW at 132 kV, 200 MW at 275 kV or above.

Transition to SSEP1

Field's view is that Option 2 is preferable. Limited work will have been undertaken if projects are pre-planning and therefore Field thinks it would be economically preferable to re-order the queue (if required) for projects in that position. This is also required to ensure that the queue remains aligned with the SSEP1.

6. Do the methodologies deliver our preferred options against each of the variables?

You can find the relevant information in **Section 3 – Overview of framework of codes and methodologies for connections reform**

See response to question 5.

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7. Are there key policy areas that are not covered by our preferred options against each of the variables or that would not be delivered by the methodologies?

You can find the relevant information in **Section 5 – Our overall preferred connections reform design** and **Section 7 – Further variables and options to align connections reform with strategic energy planning**

Entry to the queue formation process requires readiness and strategic alignment.

Readiness

Please see our response to question 14 on Readiness – ***Field believes planning submitted and validation should be added as a readiness criteria in addition to Land Rights for batteries.***

Strategic alignment

The 'Gate 2 to the whole queue' process firstly applies the Gate 2 Readiness criteria check to projects, and then assesses projects by technologies and locations in line with the CP30 Plan to establish their revised connection date. However, ***Field believes that there is another critical factor that needs to be considered in establishing the new queue, and this is TO resource.***

Whilst Field agrees that for projects to be in Phase 1 these must both meet the Gate 2 Readiness Criteria, and be aligned with the CP30 plan, ***the current methodology assumes that all projects require the same resources (people power and capital) to be delivered.*** This is very much not the case. For example, a project which connects into an existing substation where there is a spare bay requires significantly **less** design input and TO capital than a project which is reliant on a new substation being built or significant substation extension works. At a basic level, ***the current process picks winners by technology type or location, but risks creating a down-selected list of projects which are more time-consuming and costly to build, ultimately leading to increased costs to consumers.***

Field therefore believes that priority should be given to Phase 1 projects which require less resources to deliver i.e. there should be an additional step after Step 7 in Figure 5.7.1 within the Connections Network Design Methodology to account for this. Field's view is that the relevant metric to make the assessment is the Transmission Connection Asset Works.

Adding this step will maximise the opportunity to deliver CP30 projects as quickly as possible and is especially critical when Transmission Operator resource is expected to be a key constraint/risk in delivering CP30.

8. Do you agree with our approach to managing project attrition between 2025–2030, and 2031–2035, whilst ensuring that the SSEP can deliver maximum benefits to GB consumers?

You can find the relevant information at **Section 7 – Further variables and options to align connections reform with strategic energy planning**

Field's experience of projects reaching a Final Investment Decision is that this is difficult to achieve and lots of projects don't make it for a variety of reasons: costs are too high making

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projects uneconomic; planning not granted or planning conditions too onerous/expensive to implement; cannot secure required land rights at a price that makes the project viable (e.g. for cable route); regulatory/code changes make projects uneconomic; market changes (e.g. gas price); cannot secure debt. Field's experience is also shared by Cornwall Insight who report that nowhere in Britain currently exceeds a 20% success rate of renewable energy projects proceeding through planning.

Field would also note that every additional storage site erodes the price spread (and therefore its own revenue stream); the growth of storage is therefore inherently self-limiting. This characteristic applies far more to storage than to wind / solar where revenues may be supported by CfDs. So whilst the existing storage queue looks very large now, the reality is much of it will not be economic to build even if it could secure land and planning.

Field therefore thinks it is a good idea to issue stage 2 offers to projects that are needed for 2035 from the outset and hope DESNZ provides a 2035 target to ensure NESO to do so.

However, Field also suggests going further than this, reflecting on NESO's advice of keeping options open in the face of uncertainty. **Where technology types are interchangeable (e.g. demand flex and short-duration storage or onshore and offshore wind), we recommend NESO make the CP30 connection queue longer to keep their options open in case of underdelivery of either. Field also recommends NESO factor in the potential for underdelivery in the distribution network. Our suggestion is to mitigate these risks as well as the risk of attrition caused by the reasons above by increasing the size of the CP30 queue accordingly. This is especially true given that the CP30 spatial plan was based on NESO's assessment of where projects are being constructed or have CM contracts or some very project specific planning status analysis, as opposed to where the real system operability need is.**

If this longer list is created, we agree that 2031-2035 projects shouldn't be replaced before SSEPI is available.

Connections Network Design Methodology

You can find the relevant information in the [Connections Network Design Methodology - Detailed Document](#) - [Link](#)

9. Do you agree with the approach to applying the Gate 2 Readiness Criteria and the Gate 2 Strategic Alignment Criteria to the existing queue and future Gate 2 Tranches?

Gate 2 Readiness Criteria:

Yes, subject to some proposed revisions to the Gate 2 Readiness Criteria as detailed in full response to question 13 (Increase in minimum acreage requirement, especially for long-duration batteries, amendment to option length, and addition of planning submission and validation Gate 2 requirement for BESS) and the further comments provided below.

Field also strongly feels that Step 7 of the process (returning Phase 1 projects to original relative queue positions) should be removed. The re-ordering based on historic connection

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dates as per the currently proposed Step 7 goes against the spirit of connections reform in general (first ready, first served), and means that projects which are at the most advanced stage (planning obtained) are not adequately recognised or prioritised. Re-ordering projects whereby projects with planning submitted only may jump ahead of those with planning obtained unfairly disadvantages credible developers who will have committed extensive resources and costs to obtain planning and deliver a “ready” project. Field spends c. £350k of DevEx on a 200 MW battery to progress the project to planning obtained.

Furthermore, as noted in response to question 5, there is a very high (>80%) rate of attrition for projects proceeding through planning, thus creating a delivery risk for the Phase 1 pipeline if less advanced projects are positioned towards the front of the queue.

Field also notes that this re-ordering isn’t applied to Phase 2 (which we feel is correct).

Do you agree with the three categories of Planning Obtained, Planning Submitted, and Land Rights for sorting projects?

Yes.

Do you believe Phase 2 should remain in existing relative queue order, or should it also be reordered by planning status to determine alignment to the CP30 Plan?

Phase 2 should also be re-ordered as per CP30 alignment. This would mean that the projects at the top of Phase 2 will be able to step-in to Phase 1 without delay should another project be ejected from Phase 1. This is particularly relevant given the expected rates of project attrition as noted in response to q5.

We have explored two alternatives, shown on pages 82 and 83? Would you support either of these alternatives over the proposed approach on page 29?

Alternative 1 - Field do not support this approach as this does not prioritise projects that are further progressed. Prioritising projects based on the three categories of Planning Obtained, Planning Submitted, and Land Rights is critical to ensure that projects assigned to the front of the queue are deliverable in the required timeframes.

- By not assigning projects to the three categories, alternative 1 does not aid in ensuring that speculative projects are removed from the queue; this is particularly relevant for batteries where there is oversupply
- This approach also creates further issues with attrition; there is expected to be a very high rate of attrition for projects which have not yet met any key development milestones.
- Finally, alternative 1 risks that significant TO resources (cost and people power) may be wrongly spent on facilitating connections for projects which ultimately do not progress.

Alternative 2 - Field strongly supports alternative 2 which removes Step 7 (returning Phase 1 projects to original relative queue positions) as detailed above.

Field also takes Overall Design Option 2 to include “ready NESO designated projects”. Field was unclear why these weren’t explicitly included in option 2 and 3 as they were for option 1.

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Gate 2 Strategic Alignment Criteria:

Field believe that allowing Strategic Projects may have the unwanted effect of delaying projects that are ready to build (e.g. prioritising pumped storage over long duration BESS), and hence do not agree with point E of the Project Designation Criteria.

Future Gate 2 tranches:

Clarity is required on 7.2.4b) (page 56) "Where projects are applying to Gate 2 to secure their Gate 1 Connection Point and Capacity Reservation".

10. Do you agree with the approach to managing advancement requests? (pg44)

Do you agree with taking advancement requests into consideration when reordering the existing queue?

Yes, as not all projects will want an accelerated connection date.

However, careful consideration should be given to the deliverability of all associated works (Appendix B- One-off works and Appendix G-Transmission Connection Asset Works) and whether they align with the requested advancement date.

As noted in our response to question 7, Field believes that consideration of TO resources is a critical factor that must be considered when establishing the new queue. The current methodology assumes that all projects require the same resources (people power and capital) to be delivered, however this is not the case e.g. a project which connects into an existing substation where there is a spare bay requires significantly less people power and TO capital than a project which is reliant on a new substation being built or significant substation extension works.

Field therefore believes that priority should be given to Phase 1 projects which require less resources to deliver i.e. there should be an additional step after Step 7 in Figure 5.7.1 within the Connections Network Design Methodology to account for this. Field's view is that the relevant metric to make the assessment is the Transmission Connection Asset Works.

Adding this step will maximise the opportunity to deliver CP30 projects as quickly as possible and is especially critical when Transmission Operator resource is expected to be a key constraint/risk in delivering CP30.

Do you agree with the limited circumstances under which NESO would permit Users to request reversion to their original connection date? (page 47)

Field generally agrees with this as this will disincentivise speculative acceleration applications which would slow down the CP30 alignment process.

However, clarity is required on point 5.25.8 - "If advancement is not possible and the connection date offered is later than the original connection date, there will not be an option to revert to the original connection date." This reads that if a customer applies for advancement but it is concluded that this cannot be offered, their original connection offer date may be

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rescinded, is that correct? This does not seem appropriate wording under this specific section of "5.25 Offer terms when a project has been advanced"

11. Do you agree with the approach to reserving Connection Points and Capacity at Gate 1? (page 35)

Do you agree with the concept of reserving for undersupply against the CP30 Plan pathway(s) to 2030?

No. Field believes that more emphasis should be given to the deliverability of projects.

Regarding the example provided in 5.17.2, Field believes that it would be better to connect a BESS/solar project that is available in 2028 (assuming it is contributing to reaching CP 2035 targets) rather than have a bay going unused until 2032. The timescales in which the TOs will need to build out the additional bays required for Wind projects (5-6 years) would align more with the typical timescales of wind projects that are yet to be developed. This will by definition be the status of these wind projects given the fact that the technology type for that area has been classed as 'undersupply' so they have not met gate 2 criteria.

Do you agree with the circumstances under which NESO could reserve a Connection Point and Capacity for a known project?

Yes, only when the customer can provide confidence that they can deliver to a 2030 timescale.

Do you agree with the circumstances under which NESO could reserve a Connection Point and Capacity for an as yet unknown project?

No - Whilst Field appreciates the need for a technology mix, reserving bays for strategic projects where there will naturally be a significant amount of uncertainty and likely long associated timescales that miss the 2030 target, Field believes that this then works against the core objective of CP30 / Connections Reform.

12. Do you agree with the approaches to reallocating capacity when 2030 pathway projects and 2035 pathway projects exit the queue?

Regarding 7.16.4 c) Field does not agree that 'projects of greater capacity' should not be considered. Rather, Field thinks that such a customer should be engaged with in order to determine whether they are interested in reducing capacity to facilitate an accelerated connection. Or, if there are no system implications to a greater capacity project, the higher capacity is likely to be a benefit to consumers.

Do you agree with the approach to reallocating capacity when 2035 pathway projects exit the queue?

In part. **Field agrees with the approach that capacity should be reallocated to a 'ready' Phase 2 project when 2035 pathway projects exit the queue, however Field does not agree that this should be limited to projects from the same CP30 zone as the exiting project. A**

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replacement project may be available in an alternative zone (particularly a zone where there is oversupply) that is capable of being delivered more quickly and/or with less TO resources.

Field has a query in relation to 7.17.3 – Will customers have full transparency of the queue, and hence of these customers being removed? Greater transparency will enable developers to identify risk/opportunity. If a project exits the queue, will NESO declare this and hence open a dialogue with Gate 1 customers about their project status? This will result in the queue being re-populated efficiently.

Gate 2 Criteria Methodology

You can find the relevant information in the [Gate 2 Criteria Methodology- Detailed Document - Link](#)

13. Do you agree with the following elements of this Gate 2 Criteria Methodology?

- a. Gate 2 Readiness Criteria – Land (Chapter 4)
- b. Gate 2 Readiness Criteria – Planning (Chapter 5)
- c. Gate 2 Criteria Evidence assessment (Chapter 8)
- d. Self-Declaration Templates (Chapter 9)

(a). Yes, in part.

Field agrees that requiring projects to demonstrate that they have secured relevant land rights should be a key criteria for Gate 2 Readiness. However, **Field believes that the Land criteria as currently proposed are not fit for purpose.**

As stated in the Gate 2 Criteria Methodology document, the purpose of Gate 2 is to “allocate confirmed connection dates, connection points and queue position to projects that are viable and progressing”; the current criteria are not considered robust enough to ensure that projects meeting the Gate 2 Readiness Criteria – Land are viable projects. Please see below for further detail.

Minimum acreage requirements: The minimum acreage requirement is calculated using the Energy Density Table as defined under CMP427. For Energy Storage this is defined as 0.0151 acres/MW. Field believes this figure substantially underestimates the amount of land required in principle to build an energy storage project.

Field also does not agree that the network substation or land used for non-energy purposes should be excluded from minimum acreage requirements.

- Whilst it is acknowledged that the network operator may deliver the substation, the land and consent for this is generally obtained by a developer and therefore should be included in the minimum acreage requirements
- Whilst there may be occasional circumstances where land for non-energy purposes is not required to be part of the secured land rights (e.g. where this is proposed to be

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covered by a section 106 agreement) there are many other essential design elements that are required by all projects and these need to be included in the minimum acreage. These include: access, landscaping and biodiversity enhancements.

Field proposes that the minimum acreage requirements should be increased as per the below.

Note: There is a difference in electrical infrastructure requirements for distribution projects vs transmission projects (i.e. distribution projects do not require a HV transformer). Separate minimum acreage requirements are therefore proposed for distribution and transmission projects. Separate minimum acreage requirements are also provided for longer duration sites.

- ***The total minimum acreage requirements for 2 hour duration battery projects should be increased to 0.08 acres/MW for distribution projects and 0.09 acres/MW for transmission projects.*** (This is based on a gated compound area for 2 hour duration battery projects of 0.03 acres/MW for distribution projects and 0.036 acres/MW for transmission projects)
- ***The total minimum acreage requirements for long-duration battery projects (8 hour and greater) should be increased to 0.17 acres/MW for transmission projects.***

These values are based on averages calculated from Field's portfolio of battery storage sites.

Secured land rights

Gate 2 Readiness Criteria – Land requires users to provide evidence of secured land rights by means of either an Option Agreement, evidence of existing ownership or existing land lease. For an Option Agreement, the Option must be exercisable for a period of at least 3 years from the date of agreement.

Field considers that a 3 year period from the date of agreement is an arbitrary figure that doesn't guarantee that land rights are secured for the sufficient length of time needed to deliver the project. For example:

- The typical construction period for a 100MW battery storage project is 1.5 years. A project with a 2030 connection would therefore need to commence construction in 2029. A 3 year Option period commencing now, would only secure land rights until 2027.

Field proposes that the evidence should have to be provided by a User to demonstrate that the length of the Option period aligns with the anticipated commencement of construction date and corresponding connection date.

Field agrees with the other criteria in relation to secured land rights.

(b). Yes, in part.

The current requirement to demonstrate submission and validation of planning is required for DCO projects only; this has been included as an either or option in recognition of the fact that DCO projects may not be able to evidence land rights if they are reliant on the award of compulsory purchase powers. Field is in agreement that this alternative option needs to be provided for DCO projects.

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However, ***Field strongly believes that BESS/ short-duration storage should also have to evidence submission and validation of planning in addition to evidencing land rights.***

As stated in the Gate 2 Criteria Methodology document and noted above, the purpose of Gate 2 is to “allocate confirmed connection dates, connection points and queue position to projects that are viable and progressing”.

Securing Land Rights is far less onerous for these battery projects than e.g. wind/solar/nuclear; batteries are much more energy dense than other technologies and therefore require a much smaller land take generally covered by a single landowner. The financial commitment required for a battery storage project to secure land rights is very low (c. £30k). Field therefore considers that requiring batteries to only demonstrate land rights to meet the Gate 2 Readiness criteria is not a significant enough hurdle to prevent speculative projects remaining in the Phase 1 queue or to address the oversupply of batteries. Field proposes that to better reduce the queue for BESS, the Gate 2 Readiness criteria should require Land Rights and Planning Submitted. This would greatly help reduce the queue to required levels.

At the NESO conference on 05 November, the reasoning provided for not including a planning criteria for gate 2 readiness was that planning timescales for Wind are extensive (~5 years). Field therefore proposes that the additional planning requirement is applied to BESS only. Field’s view is that treating projects fairly does not mean treating them all equally.

(c)

As noted under parts a) and b) above:

- ***In relation to Secured Land Rights, Field considers that the minimum acreage requirements and length of Option need to be amended***
- ***Evidence of planning submission and validation should be added to the Evidence Requirements for BESS***

(d)

As noted under part b) above, it is considered that evidence of planning submission and validation should be added as a requirement in the readiness declaration letter for BESS projects.

The current proposal for the readiness declaration letter provides for a decrease in capacity, but not an increase. Field proposes that this should be added as an option as this may be relevant in areas where there is undersupply.

14. Do you agree that the alternative route of meeting the Gate 2 Readiness Criteria should be only limited to projects that seek planning consent through the Development Consent Order route?

As noted in response to question 13, Field agrees that DCO projects should be provided an alternative route for meeting the Gate 2 Readiness Criteria.

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However, **Field strongly believes that the requirement to evidence planning submission and validation in addition to land rights for Gate 2 Readiness should apply to battery projects. This would help with the issue of oversupply of battery projects.**

Project Designation Methodology

You can find the relevant information in the **Project Designation Methodology - Detailed Document** - [Link](#)

15. Do you agree that the categories of projects that we have identified are the appropriate ones to potentially be designated?

1. Projects that are critical to security of supply - yes
2. Projects that are critical to system operation - yes
3. Projects that materially reduce system and/or network constraints - yes
4. Projects that are new technologies and/or highly innovative - no. Field thinks that projects of this nature would be better suited to trialling at small scale in the distribution network. For example, a new type of floating offshore wind. Field notes that large projects can be trialled internationally.
5. Projects with very long lead times that may be needed beyond the 2031 to 2035 pathway - Field suggests that these should not be included until the publication of the SSEPI; the SSEPI will provide a robust way of determining what is actually required.

16. Do you agree with the proposed criteria for assessing Designated Projects?

Yes, in part.

- See response to q15 above that highly innovative projects being more suitable for trialling at a smaller scale connected to the distribution network; and
- Gate 2 Strategic Alignment Criteria: Field believes that allowing Strategic Projects may have the unwanted effect of delaying projects that are ready to build (e.g. prioritising 6 hr pumped storage over a 6hr duration BESS the latter having much lower cost, construction risk and can be built in a quarter of the time), and hence do not agree with point E of the Project Designation Criteria.

17. Do you agree with the indicative process NESO will follow for designating projects?

It is Field's opinion that one of the most likely uses of the designation methodology will be to facilitate projects that provide stability and/or reactive power under the "critical to System Operation" banner.

At Field, we have colleagues who have taken part in phase 1, 2 and 3 of the stability pathfinder and Mersey and Pennines High Voltage Pathfinders.

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Field notes the evolution of reserving bays for the stability pathfinder:

- This wasn't done in phases 1 or 2. In phase 2, it's notable that this resulted in the most economic projects not being where NESO (then NGESO) defined stability 'hot spots'. For example, projects are being delivered at Thurso South rather than Spittal; Rothienorman rather than Peterhead; Neilston and Kilmarnock South rather than Hunterston and Gretna rather than Moffat. Had connections not been readily available in Scotland at the time of phase 2, NESO may have chosen to reserve bays at 'hot spot' substations and therefore eliminated the possibility of the more economic projects that in fact ended up being built.
- In stability phase 3, NESO did reserve bays. However, even in this case, some projects are being delivered at substations that NESO missed. E.g. at Sellindge where no bay was reserved but a contract was secured by a participant.

The examples above highlight the power of innovation from the private sector.

Field has engaged extensively with the team running stability tenders at NESO and therefore NESO will be aware that Field designs battery energy storage projects able to provide significant amounts of stability, inertia and reactive power, very cost effectively. Moreover, ***the location of our projects aligns with NESO's greatest stability need in the north of Scotland. These are projects that are already in the connection queue and will meet the (current) gate 2 criteria when it is first assessed in April 2025. Most of these projects will also have submitted planning in advance of this date and would therefore still meet Field's proposed amended Gate 2 criteria for BESS of land rights and planning submitted.***

Separately, Field is aware that SHET are including bays in planning applications for new substations (at Banniskirk, Coachford and Greens, for example) for synchronous condensers. Field therefore assumes these are going to be some of the reserved bays for future stability tenders. Field has gate 2 BESS projects at 2 of the substations mentioned above already.

Field encourages NESO to think about how reserving bays for operability purposes will interact with projects that are able to provide those services and are already in the queue. Field thinks it is essential that there are always two routes into a competitive operability tender: through an existing project in the queue that can be designated if it wins, or a reserved bay that is designated if a project is successful there.

Field therefore feels that projects that are capable of providing 'operability services' in the north of Scotland should also be included as designated projects to ensure that future tenders are competitive.

Additional Questions

18. Do you have any other comments (including whether there was anything else you were expecting to be covered in these documents)?

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Field would like to re-iterate its key messages which we feel are most critical to the successful delivery of the Connections Reform.

Field develops, owns and operates battery storage projects across the UK and Europe. Field notes that the key messages raised below are particularly pertinent for battery storage, which it considers need to be assessed differently to other technologies both in terms of capacity target figures per spatial zone and Gate 2 Readiness criteria.

1. **Field notes that for Connections Reform to be successful, it is completely critical that the spatial plan is correct both in terms of zonal and technology requirements. The spatial plan should be defined based on both what is deliverable (i.e. an assessment of the number and type of projects that can actually be delivered) and what is required by the system (i.e. a detailed analysis of short-circuit level deficits, constraints and reactive power requirements).** Errors in the spatial plan at this stage could have catastrophic effects on the delivery of CP30, with zones being left undersupplied where insufficient 'ready' projects of a suitable technology exist (e.g. batteries in the North England) and conversely, 'ready' and needed projects not forming part of the Phase 1 queue (e.g. battery projects in North Scotland which can heavily aid constraints and short-circuit level deficits).

Field understands that the draft spatial plan delivered in the CP30 advice to government was based on analysis of where there already is the highest concentration of 'ready' projects i.e. projects in construction or with capacity market contracts and not where the biggest system need is. Field also understands that whilst some further more detailed project specific analysis has taken place, this has not been at the granular level necessary to inform regional targets.

Since this time, it appears that connection reform is being based upon this spatial map of 'ready' projects, rather than where the actual system need is, which is incorrect, and as noted above, likely to lead to catastrophic effects.

Field's analysis of the TEC register and planning applications differs markedly from NESO's and Field would welcome the opportunity to take NESO's connections reform team through it.

In particular, NESO has confirmed to Field that system operability requirements - constraints, stability and reactive power, have not yet been considered in the draft spatial plan. This urgently needs to be fixed to avoid catastrophic effects for battery storage projects (which risk not receiving a Phase 1 offer if capacity target figures per spatial zone are incorrect) and inefficient outcomes since batteries are the lowest cost providers of these services.

It appears that connection reform **for storage / batteries** is being based upon this draft spatial plan, rather than where the actual system need is, which is incorrect and the consequential lack of storage / batteries and stability services **in the right places** could lead to catastrophic effects on the deliverability of CP30.

2. **Field strongly believes that BESS/ short-duration storage should also have to evidence submission and validation of a planning application in addition to evidencing land rights in order to achieve Gate 2 Readiness.** Securing Land Rights only is not considered a sufficient hurdle for BESS and is not a significant enough deterrent to prevent speculative BESS projects from reaching Gate 2 Readiness. This is particularly relevant as there is an oversupply of BESS. Field is cognisant that the consenting timescales for other technologies e.g. wind and solar are longer than for BESS, hence why it is proposed that this additional criterion is applied to BESS only.
3. **Field believes that the target capacities in the spatial plan for onshore wind and batteries should go beyond the 2035 targets (because onshore wind capacity in 2035 is currently projected to only be 7% higher than 2030 and battery capacity in 2035 is currently only projected to be 6% vs an expected attrition rate of >30%). This is in order to keep options open particularly in the face of uncertainty on deliverability.** This is in relation to:
 - Technology (demand side response and batteries are interchangeable and therefore overprocuring both mitigates against underdelivery of one);
 - The split of distribution and transmission (where Field thinks too many new super-grid transformers will be required to facilitate the volume of distribution-connected project proposed); and
 - The potential for undersupply (in particular in English zones, based on our analysis)
4. **TO resource is expected to be a key constraint in the delivery of CP30 and Field does not believe that this has been adequately considered in the proposals.** The current methodology assumes that all projects require the same resources (people power and capital) to be delivered, however this is not the case. Field therefore believes that priority should be given to Phase 1 projects which require less resources to deliver i.e. there should be an additional step after Step 7 in Figure 5.7.1 within the Connections Network Design Methodology to account for this. Field's view is that the relevant metric to make the assessment is the Transmission Connection Asset Works (Appendix G of in Construction Agreements). Adding this step will maximise the opportunity to deliver CP30 projects as quickly as possible/mitigate the risk of running out of engineers.
5. **Field feels that Step 7 of the process (returning Phase 1 projects to original relative queue positions) should be removed.** The re-ordering based on historic connection dates means that projects which are at the most advanced stage (planning obtained) are not adequately prioritised. Re-ordering projects whereby projects with planning submitted only may jump ahead of those with planning obtained unfairly

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disadvantages credible developers who will have committed extensive resource and costs to obtain planning and deliver a “ready” project.

6. Field does not think that bays should be reserved for non-designated projects simply in order to fill up a certain technology ‘bucket’. This is especially true where there are ‘ready’ projects of a different technology type that are capable of being delivered earlier and/or come from a technology type that is oversupplied in other areas e.g. batteries.