REGEN

Consultation response – Ofgem

Locational charges and regulatory siting levers under Reformed National Pricing

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About Regen

Regen provides independent, evidence-led insight and advice in support of our mission to transform the UK's energy system for a net zero future. We focus on analysing the systemic challenges of decarbonising power, heat and transport. We know that a transformation of this scale will require engaging the whole of society in a just transition.

Regen is a membership organisation with over 200 members who share our mission, including clean energy developers, businesses, local authorities, community energy groups and research organisations across the energy sector.

Summary

This document sets out Regen's response to Ofgem's Call for Input on Locational Charges and Regulatory Siting Levers under Reformed National Pricing (RNP). Given the fundamental role that locational pricing reform will play in shaping the future of the GB electricity system, we also outline Regen's broader position on the role of locational signals within a strategically planned energy system. The issues under consideration extend beyond technical changes to the Transmission Network Use of System (TNUoS) charging methodology and raise broader questions about the relationship between market signals, strategic planning, investor certainty and the delivery of the Strategic Spatial Energy Plan (SSEP).

Regen supports the principle of reforming locational charging to better align investment incentives with the future needs of the electricity system. However, we do not believe these reforms can be considered in isolation from wider changes to strategic planning, connections, balancing and market arrangements under RNP. We therefore urge Ofgem, DESNZ and NESO to take a more joined-up approach to reform design and provide greater clarity on the intended roles of locational pricing, strategic planning and wider siting levers in delivering the future electricity system.

Regen's core principles for reformed locational charges

In its call for input document, Ofgem outlines the existing arrangements for network charging and connections. Set within the wider context of the development of an SSEP and a centralised strategic network plan (CSNP) by NESO and DESNZ, Ofgem frames these policy areas as key delivery levers – both for improving investor certainty and ensuring new projects are efficiently sited in alignment with the SSEP – and sets out a case for introducing reforms.

Regen has long been supportive of these principles and welcomes the process to reform TNUoS charges.[1] Theme B of our 2024 Progressive Market Reform Agenda established key principles for sending locational signals across multiple levers, including TNUoS and connections.[2]

We consider the following principles to be critical to reforming locational transmission network charging:

1. Locational signals sent by TNUoS need to be aligned with the strategic plan
2. Locational signals sent by TNUoS need to remain appropriately cost reflective
3. TNUoS should be forward-looking, based on the expected utilisation of the planned network by generation, demand and interconnectors
4. Locational charging signals should primarily reflect deviation from the strategically planned network, rather than recover the costs of the strategically planned network
5. TNUoS zones should be aligned with the SSEP's zones and may need more granularity
6. Demand customers should receive an equally strong locational signal via TNUoS
7. TNUoS should be predictable and stable over the term of investment
8. TNUoS charges should not change due to factors beyond the control of the customer/generator, for example, because of delays to network build
9. Reform should be implemented with urgency to support investor confidence and the delivery of the Clean Power Plan.[3]

Locational signals

The current implementation of TNUoS provides extremely sharp locational signals, with high charges in Northern Scotland and negative charges (credits) for generators in England, as shown in Figure 1. However, given the short-term nature of TNUoS forecasts, alongside the scale, volatility and uncertainty of charges across regions, developers often take a cautious

[1] Improving locational signals in the GB electricity markets, Regen, 2023

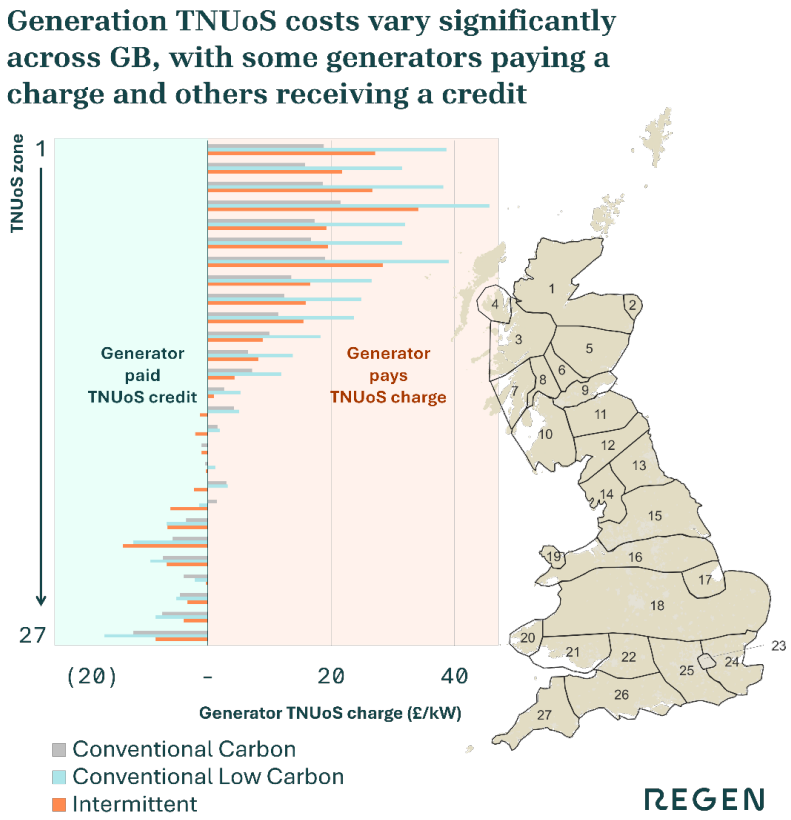
[2] Progressive Market Reform for a Clean Power System, Regen, 2024

[3] Clean Power 2030 Action Plan, Department of Energy Security and Net Zero, 2025

approach to investment decisions. As a result, developers typically factor high TNUoS charges into site selection and business planning, while treating low or negative charges as uncertain and unlikely to persist. This mean that TNUoS tends to delay projects in Scotland while doing little to accelerate projects further south.[1] It is worth noting that the Clean Power Plan aims to build more wind in Scotland, with future strategic plans likely to do the same. Current charges not only oppose this investment signal but are levied on generators via zones which do not align with the Clean Power Plan or SSEP. This misalignment will make it increasingly challenging to steer investment behaviour in the GB renewables market towards the intended system outcomes of the SSEP and should therefore be a priority for reform..

Meanwhile, TNUoS charges for demand customers typically follow an inverse trend to generation, with the important caveat that they are not exposed to negative charges. This means that the locational signal for demand customers to locate in areas of high generation, an increasingly important consideration in the context of constraints, is significantly dampened.

Taking these factors into account, we would argue the existing incarnation of locational signals from TNUoS is not fit for purpose.



Source: Transmission Network Use of System (TNUoS) tariffs for 2026/27, NESO.
Note: Charges shown are indicative estimates published by NESO for generator categories. Charges vary by project in reality.

Figure 1: Map illustrating 2026/27 TNUoS tariffs for generators

Charge volatility

TNUoS charges have been increasing and are expected to continue doing so, particularly for Scottish generators. Moreover, the level of expected charges is now often much higher than the forecasts made several years ago at the time of investment for many generators. Analysis from The Energy Landscape and Scottish Renewables shows that Scottish generators connecting in 2016 are now expected to face an additional £2.9bn in lifetime TNUoS costs than forecasts at the time suggested.[4] This trend is hugely damaging to investor confidence at a time when Britain is trying to accelerate its deployment of renewables.

Therefore, in addition to providing a rational locational signal, TNUoS needs to offer a more proportionate and predictable level of ongoing charges for generators. We agree with DESNZ's articulation of this point in the RNP delivery plan:

> "A highly accurate charge that cannot be accounted for by network users well ahead of the point of investment, and varies significantly after the final investment decision, may not be as effective in changing behaviour as a more simplistic charge which is stable, and can be easily foreseen and planned around."
> *- Chapter 2, Reformed National Pricing Delivery Plan, DESNZ April 2026*[5]

Approaches to achieve a balance between stability and an appropriate locational signal could include recovering costs on a longer-term basis, as well as potentially fixing TNUoS costs for new projects at the prevailing level at the point of competition (i.e. final investment decision or CfD award). Some industry participants also advocate for a retrospective change of this nature for existing projects.

Forward-looking charges

As well as providing a stable and trusted set of charges that are aligned with the strategic goals of the GB energy system, TNUoS must also be cost-reflective. This cost reflectivity should be based on the forward view of expected grid utilisation, as shown in the strategic plan. There is debate and challenge around the extent to which the existing approach achieves this.

The problem with a purely cost-reflective approach, in the context of achieving a strategic goal such as the government's clean power mission or the SSEP, is that it can send locational signals that are not aligned with the energy and infrastructure strategic plan (as described

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[4] Transmission Charging in Scotland: Jeopardising Britain's Energy Transition, The Energy Landscape for Scottish Renewables, 2026

[5] Reformed National Pricing Delivery Plan, DESNZ, April 2026

above). A reformed charging methodology must, therefore, strike a balance between cost recovery, reflectivity, investability and market signal provision. A new charging approach also needs to be forward-looking, considering the *planned* network rather than the network at the time of calculation.

One such approach, which we set out in our 2024 Agenda for Progressive Market Reform, would be to treat the recovery of capital and operational costs separately:[2]

- **Capital costs** are primarily associated with the strategic network expansion required to deliver net zero and the future energy system. Once strategic investments have been identified through the SSEP/CSNP and committed for delivery, a greater proportion of these costs could reasonably be socialised, reflecting the fact that net zero and energy security are shared societal objectives. In this context, the strategically planned network should increasingly be treated as a common enabling asset, with locational charging focused more on the incremental impact of projects that deviate from the plan, rather than recovering the strategically planned reinforcement costs themselves.
- **Operating costs**, including losses and some congestion-related costs, are more closely linked with location and transmission distance (for example, cable length).As such, they could continue to send a meaningful locational signal.

However, Regen would not support any system which exposes generators to high costs based on factors outside of their control, as this would add risk and cost to developments. For example, if constraint costs were embedded in the TNUoS charge, this should not increase if key transmission network reinforcement is delayed by Ofgem or Transmission Networks.

Alignment with ongoing reforms

As discussed, the alignment of TNUoS with the SSEP and CSNP is of fundamental importance and is a direction of travel that Regen supports.

We note that Ofgem's call for input is not occurring in a vacuum: DESNZ's parallel consultation on siting levers under RNP contains items of fundamental significance for the design of new locational network charges. The decision to be made around the permissiveness of the connections regime and the size of zonal connection capacity thresholds in relation to the SSEP both strongly influence the significance of locational charging signals to the realisation of the strategic plan. DESNZ's options are shown in Figure 2.

		Option 1 **Permissive connections regime; stronger role for locational charges, with variations for different technologies**	Option 2a **Directive connections regime; no/lesser role for locational charges, with variations for different technologies**	Option 2b **Directive connections regime; no/lesser role for locational charges, with variations for different technologies**	Option 3 **Directive connections regime, stronger role for locational charges, aligning with the SSEP, with variations for different technologies**	Option 4 **A combination of Options 1 to 3, with multiple different approaches to price signals running in parallel for different technologies**
Connections reform	Connections regime	**Permissive** CCT informed by the SSEP.	**Directive** Firm CCT, informed by the SSEP.	**Directive** Firm CCT, informed by the SSEP.	**Directive** Firm CCT, informed by the SSEP.	**Permissive or directive** Either, depending on the technology,
	Connection Capacity Thresholds (CCT)	**Higher or Lower** Limited impact of thresholds with a more permissive approach. CCTs have no firm threshold.	**Lower** To enable alignment with SSEP through connections (especially with no locational price signal).	**Higher** To create room for competition among developers and account for attrition.	**Higher** Combined with a role for locational price signals to deliver the optimal pathway.	**Higher or Lower** Depends on approach how high or low thresholds are or this would need to be balanced across different technologies.
Locational charges	Network and connection charging	**Strong, reflects existing system** Price signals are reflective of locational costs relative to the existing system and network and do the heavy lifting on driving siting of new generation for most technologies.	**No/lesser role** Locational decisions are primarily driven by the SSEP.	**No/lesser role** Locational decisions are primarily driven by the SSEP.	**Strong, reflects future system** Price signals are reflective of locational costs relative to the future system and network and are seeking to deliver the optimal system pathway for most technologies, within the boundary set by the CCT.	**Mixed** Could be no/lesser locational price signal, reflective of the current system or reflective of the future system, depending on the technology.
	HMG investment support mechanisms (inc. CfD)	With no hard limits on project location set by SSEP and connections, could need locational "maxima" in auctions to safeguard against sub-optimal geographical distribution of new generation projects.	Would need to ensure appropriate geographical distribution of new generation projects. However, if the CCTs are lower this could limit need for this as having a connection agreement is a prerequisite for participating in CfD or CM.	With a lesser role for network charging signals, network build is not incentivised in underdeveloped regions, risking higher constraint costs and inefficiencies unless combined with investment measures (e.g. CfD changes).	May not be required if locational pricing mechanism can be sufficiently reflective of optimal system pathway but could be needed as a secondary measure.	Needs further consideration across different technologies.

Figure 2: DESNZ's core options for combining different siting and investment levers, set out in its Reformed National Pricing delivery plan[6]

For example, if DESNZ adopt "Option 1", network and connection charges become a primary mechanism for implementing the country's strategy for energy generation buildout, but based on changes to the existing, not future system (this is at odds with several of Ofgem's proposed options). If DESNZ adopt "Option 2a", a directive connections regime with connection capacities dictated strictly by the SSEP with little room for competition, then network charging plays a far more marginal role (as suggested by DESNZ's table) and could even become a flat charge. The Ofgem call for input, meanwhile, does not articulate an option for a future TNUoS design with less/no locational signal, as implied by several of DESNZ's options for siting levers.

[6] Reformed National Pricing Delivery Plan, Chapter 2: Siting and Investment Levers, Department of Energy Security and Net Zero, April 2026

A key theme emerging across both the DESNZ and Ofgem option sets is that "future-looking" locational signals can reflect two related but distinct paradigms. Some approaches primarily seek to minimise future operational and network costs through economically efficient siting signals, while others are more explicitly designed to support delivery of the strategically planned system embodied by the SSEP.

In an ideal scenario, these approaches would converge, with economically efficient outcomes aligning naturally with the optimal strategic pathway. However, this cannot be assumed. It is possible for outcomes that appear economically efficient under narrower operational or network metrics to diverge materially from the SSEP, failing to deliver the broader requirements of a secure, resilient, fair and fully decarbonised electricity system. Conversely, a strategically optimised system may not always align with the lowest short-term network or operational cost outcome, particularly where anticipatory investment, resilience, optionality and wider policy objectives are incorporated. The relationship between these two paradigms is therefore an important underlying consideration across both reform processes.

As such, it is difficult to assess or prioritise the variety of options set out by Ofgem for locational charging reforms in this call for input, because some of the design criteria of a new regime are downstream of the decisions which will be taken as a result of DESNZ's consultation.

Regen urges that future consultations and reform processes take a more joined up approach to improve the clarity of RNP, the usability of stakeholder input, and the efficiency of engagement.

Consultation response

The case for change for regulatory siting levers

Addresses question 1

Regen broadly agrees with Ofgem's proposed assessment criteria and welcomes the recognition that reform must balance efficiency, strategic alignment and investability. We believe that, in general, these align well with the principles we have set out above. However, we believe some criteria could be more clearly distinguished and expanded. Specifically, we believe the ability of new locational charges to support the delivery of the SSEP should be explicitly designated as a success criterion.

Table 1: Ofgem's criteria for assessing location charging reform options

Criteria	Ofgem's description	Regen response
Wider system value	Degree of alignment with SSEP outcomes by accounting for wider system value	Regen agrees that alignment with the SSEP should be a core objective of locational charging reform. However, we believe alignment with strategic planning outcomes and wider system value should be treated as distinct but related assessment criteria. Wider system value may include factors such as evolving operational system needs, constraints management, demand growth, interconnection and network utilisation over time. A successful charging regime should support delivery of the strategic plan while retaining sufficient flexibility to adapt to structural changes in system development over time (without introducing excessive short-term volatility or undermining investability, as covered by the criteria below).
Efficiency	Delivers overall benefits for consumers and fair allocation of costs and risks, while appropriately reflecting system costs and/or network costs	Regen agrees that efficiency and cost reflectivity should remain central considerations in any reform of locational charging. However, there must be an appropriate balance between cost reflectivity and fair risk allocation. Generators should not be exposed to excessive or unpredictable costs arising from factors beyond their control, such as delays in strategic network reinforcement or changes in regulatory delivery decisions.

Criteria	Ofgem's description	Regen response
Investability	Charges are predictable, transparent and allow assets to respond in a timely manner	Regen strongly agrees that investability should be a core criterion for assessing reform options. Predictability and stability of charges over investment timescales are essential to maintaining investor confidence and reducing financing costs. This is particularly important given the scale and pace of investment required to deliver the Clean Power Plan and wider strategic energy objectives.
Enabling competition	Enables sufficient competitive dynamics in the system, driving costs down for consumers	Regen agrees that locational network charging arrangements should support effective competition and efficient market outcomes. However, competitive dynamics are shaped not only by charging arrangements, but also by the interactions among network charging, strategic planning, connections reform, revenue support and wider market design. Charging reform should therefore be considered as part of the wider RNP package, rather than in isolation.
Deliverability	Not unduly complex and can be implemented within pre-set timelines and a reasonable budget	Regen agrees that deliverability and implementation complexity are important considerations. However, genuinely beneficial reforms should not be discounted solely because they are more complex or challenging to implement. There is a balance to strike between pragmatism and ambition. Incremental reforms may improve deliverability and investor confidence in the near term, but should not preclude more fundamental improvements when necessary and well evidenced.

Therefore, we suggest that the above criteria be refined and expanded upon to include:

- Alignment with the SSEP
- Strategic coherence with the wider package of RNP and connections reform
- Stability and predictability of long-term investment signals
- The allocation of risk outside of market participants' control.

Options for interzonal locational charges

Addresses questions 2, 3, 4, 5

The options presented by Ofgem for reformed interzonal locational charges are:

- **Option A** – targeted changes to the current regime
- **Option B** – network utilisation impact charge
- **Option C** – system and constraints impact charge
- **Option D** – metric-based charge
- **Option E** – plan-based auction pricing.

Regen does not consider that any of the options have been presented with sufficient detail at this stage to select one with any degree of certainty as to the risks and benefits. In addition, the significant interplay between DESNZ's siting levers consultation and this call for input means the desired end state of the reform is unclear. We believe that no option should be ruled out at this stage and that Ofgem, together with NESO and DESNZ, should work to provide more detail on the proposals and their interplay with other components of RNP.

We have assessed each of the five options to the best of our ability, including through consultation with our membership and wider industry colleagues. We have set out detailed rationale for our views in the following sections and provide a summary in Table 2.

Table 2: Summary of Regen's position on the five options set out by Ofgem

Reform option	Regen position	Summary of rationale
A	Pragmatic but likely insufficient	Incremental reforms to the existing framework could improve alignment with the SSEP and planned future network while retaining a familiar charging structure and may enable more rapid delivery. However, layering increasingly complex modifications onto the current methodology may further harm transparency and predictability without resolving the underlying conflict between cost reflectivity and strategic alignment.
B	Preferred direction of travel	Regen considers Option B the most promising approach currently presented. A forward-looking, utilisation-based methodology aligned with the planned future network could better align with the SSEP and CSNP while maintaining long-term cost-recovery principles. Network utilisation may also provide a useful proxy for "delta" from the strategically planned system.

Reform option	Regen position	Summary of rationale
C	Conditional support (subject to fundamental design clarification)	Regen sees some merit in approaches that use the projected impact of new generation on future system constraints to inform long-term locational investment signals. However, this should not become a mechanism for recovering operational constraint costs from generators or for transferring network delivery risk onto projects. Additionally, there are significant concerns regarding complexity, predictability and the ability to robustly forecast future constraints. Generators should not be exposed to volatile or rising charges resulting from delays in network delivery or factors beyond their control.
D	Supportive in principle	A metric-based approach linked to progress against the SSEP could provide a useful feedback mechanism to support strategic alignment over time. However, further detail is required on how such a metric would operate in practice. Regen considers this approach more likely to complement Options A or B than to operate as a standalone methodology.
E	Significant reservations	Regen has significant concerns regarding the complexity and wider market implications of a plan-based auction approach. This option would require substantial further assessment of interactions with CfDs, the Capacity Market, connections reform and wider RNP arrangements. There are also concerns regarding liquidity, investability and the risk of unintended market distortions. Of the options presented, Regen considers this the least developed and most challenging to implement.

Option A – targeted changes to the current regime

Addresses question 6

Regen is broadly supportive of further consideration of Option A, provided that the TNUoS methodology is significantly updated to reflect the utilisation of the future, rather than the existing system. The main advantage of this option lies in retaining a relatively familiar and deliverable charging model, though the extent to which incremental changes to the existing TNUoS framework could improve alignment with the SSEP remains unclear.

Aligning TNUoS zones with SSEP zones, using the planned future network rather than the existing network and improving the treatment of spare capacity could all represent practical near-term improvements. This approach is also likely to be easier to implement within the required timescales and may provide greater continuity for investors than more fundamental reform options.

We feel that in the near term, changes that would materially improve investor certainty could include fixing TNUoS charging at the point of investment/competition (i.e. final investment decision for merchant generators, or at the point of entry into a CfD contract or other support mechanism). This is because a changing locational signal cannot be responded to after this point and evidence shows that rapidly changing costs and a lack of predictability are eroding investor confidence.[4]

However, Regen does not consider that targeted changes alone are likely to resolve the deeper issues with the current regime. The existing methodology is still fundamentally designed around a network cost model that tends to produce high charges at the edges of the system, even where the strategic plan requires significant generation investment in those locations. There is a risk that Option A becomes a series of patches layered onto a methodology whose underlying logic remains poorly aligned with SSEP delivery. If pursued, Option A should therefore be treated as a pragmatic improvement pathway rather than a complete enduring solution.

Option B – network utilisation impact charge

Addresses questions 7, 8, 9 and 10

Regen considers Option B to be the most promising of the current options presented. A forward-looking approach based on the planned utilisation of the future network could better align TNUoS charges with the SSEP and CSNP, while retaining a clearer relationship to long-term network costs. In principle, network utilisation could provide a useful proxy for the "delta" between the strategically planned network and the impact of additional generation, demand or interconnection located in particular areas in a given year (or wider time period). This would allow TNUoS to support the delivery of the plan rather than penalise projects that are aligned with it.

A key question for Option B is how anticipatory investment should be treated within the charging framework. Regen considers that, once strategic network investment has been identified through the SSEP and CSNP process and committed for delivery, a greater proportion of these costs should be treated as shared system costs and socialised accordingly. The purpose of the CSNP is to identify the least-regret network investment required to deliver wider societal objectives, including net zero, energy security and affordability. In this context, TNUoS should primarily reflect the incremental impact of projects that deviate from, or materially increase the costs of, the strategically planned network, rather than continuing to recover the costs of the strategically planned network itself through strong locational signals.

This distinction is important because a purely cost-reflective approach based on existing or historical network conditions risks producing signals that directly conflict with the strategic energy plan – as we see under the current model (i.e. wind in Scotland experiences the highest charges despite the strategic ambition to build more there). Option B appears better placed than the other options to balance strategic alignment, cost reflectivity and investability, provided that utilisation is assessed relative to the planned future network.

The design detail, however, will be critical. Charges should be based on planned network capacity and long-term utilisation assumptions, not short-term or volatile annual modelling outputs. Stronger locational signals for development outside the strategic plan may make sense, but projects locating in line with the strategic plan should not face unpredictable charges driven by wider delivery risk. Option B should be developed with clear rules on update frequency, charge stability, the treatment of anticipatory network investment and the point at which charges are fixed for investment purposes.

The interaction between Option B and the wider RNP framework will also be important. The effectiveness and purpose of locational charging depend heavily on the degree to which siting decisions are shaped by directive strategic planning and connections reform. Under more directive models, the role of TNUoS should increasingly shift toward fine-tuning investment around the strategic plan, rather than attempting to independently determine the geography of generation development.

Option C – system and constraints impact charge

Addresses questions 11 and 12

Regen sees some conceptual merit in exploring Option C, particularly in its aim to reflect wider system costs over longer time horizons. We can see theoretical merits in this if used as a means to disincentivise generation build in areas that would cause a significant deviation from the optimised system of the SSEP and CSNP's pathways (i.e., "minimising the delta").

There are parallels with ideas previously explored in Regen's work on progressive market reform, where locational signals could, in principle, reflect broader system impacts rather than only reinforcement costs.[2] This includes the "Optimised Transmission Investment Cost" (OpTIC), first proposed by Scottish Power, which would recalculate forward TNUoS charges using an algorithm based on a forward forecast of future network constraints using an LMP-type pricing model.[7] Since the OpPTIC model would be forward-looking, based on planned future network and forecasts of future constraints, it would (in theory) not penalise generators for locating in areas that may have limited capacity today but have been earmarked for capacity

[7] Beyond the OpTICs: a network charging solution for the future, Scottish Power, April 2024

expansion in the strategic plan. On the other hand, generators would be penalised if they locate in areas that will see rising constraints and are not planned for future grid capacity expansion.

However, Ofgem should be much clearer about whether Option C is intended to create a long-term locational investment signal to minimise future constraints, or to recover projected constraint costs through TNUoS. These are materially different objectives and we would not support an approach focused on recovering constraint costs.

Furthermore, Regen has significant concerns about any approach that risks charging generators for constraints that they cannot control. Future constraint costs depend heavily on network delivery, outage assumptions, operational modelling and regulatory decisions. It would be inappropriate for TNUoS charges to increase because strategic transmission investment has been delayed, because delivery is late, or because constraint modelling only considers a limited network build horizon.

A constraints-based charge would also rely on NESO and Ofgem being able to forecast future constraints robustly and in a manner which the entire sector agrees upon, which is inherently difficult. For these reasons, Option C should be treated with caution and should not become a means of shifting network delivery risk onto generators.

Option D – metric-based charge

Addresses questions 13 and 14

Regen supports, in principle, further exploration of a metric-based approach, particularly as a complementary "top-up" mechanism alongside Options A or B. A well-designed metric could provide a useful feedback loop between charging signals and progress towards the SSEP, helping to fine-tune locational incentives when particular technologies or zones are materially ahead or behind the strategic plan. This could help address the challenge that strategic plans will evolve over time, while avoiding excessive reliance on volatile annual modelling outputs.

However, further detail is needed before Regen can support Option D as a standalone methodology. The basis of the metric, its relationship to underlying costs, its temporal and spatial resolution, its update cycle and its treatment of different technologies are all unclear. A simple metric could create arbitrary or unfair outcomes if it does not reflect genuine system value or practical deliverability. Regen would support further exploration of Option D, but primarily as a bounded adjustment mechanism, rather than the central basis for TNUoS reform.

Option E – plan-based auction pricing

Addresses questions 15, 16, and 17

Regen has significant reservations about Option E. Of all the options presented, this appears to be the least compelling under the current RNP framework and the most likely candidate to be set aside at this stage. A plan-based auction approach would introduce substantial complexity

and would need to be assessed alongside CfD allocation, the Capacity Market, connections reform and the wider design of RNP. Without very careful design, it could create uncertainty for developers, undermine investability and distort interactions between connection rights, revenue support and project financing.

There are also practical concerns about auction liquidity, bidder behaviour and the risk of unintended outcomes in zones or technologies with limited competition. In some areas, the auction outcome may reflect market power or speculative behaviour, rather than underlying system value. The approach also risks being too directive for technologies whose siting is shaped by resource quality, land availability, planning constraints, cable routes and other practical factors. Regen therefore does not support Option E as the preferred reform route at this stage.

Provisional design considerations for locational charges for demand and storage

Provisional considerations for final demand

Addresses question 18

As discussed above, the present TNUoS arrangements provide some level of locational signal to demand customers. This is dampened relative to the equivalent locational signals for generators by the imposition of a floor at £0 for demand. Add to this the outsized influence of the residual charge for demand users (flat rate across zones), and there is, in effect, no positive signal for siting demand in the northern half of Britain. It is worth noting that the £0 floor was introduced to avoid incentivising excessive demands and to avoid significant costs/benefits for customers unable to respond to a locational signal – reforms to the locational element must be cognisant of these consequences as well.

As set out in section B4 of our Progressive Market Reform Agenda, we believe there is a strong case for considering whether large-scale industrial demand should receive a stronger signal to position itself in areas of high generation and low demand, particularly where this is likely to have a strong impact on constraint costs.[8] This is particularly salient for prospective large users who may be better able to relocate and are likely to respond to the availability and cost of energy. For example, hydrogen electrolysis and some types of data centres.

However, the effectiveness and legitimacy of future locational demand signals will depend partly on the extent to which different categories of demand are incorporated into the SSEP and wider strategic planning assumptions. At present, the SSEP remains primarily focused on generation and storage, with only limited consideration of certain large demands such as data

[8] Section B4 – Locational signals for consumers, Progressive Market Reform Agenda, Regen, 2024

centres. Applying strong, future-looking locational signals to demand categories that are not meaningfully represented in the strategic planning process risks incentivising the creation of a system that has not been optimised within the SSEP process.

This raises an important tension between the treatment of demand relative to generation and storage within a strategically planned system. Generation and storage are subject to spatial optimisation through the SSEP, meaning future locational signals can plausibly be benchmarked against the strategic pathway. Meanwhile, most demand is not subject to the same optimisation. It would therefore be hard to justify a locational charge element derived from that framework. However, failure to incentivise large and/or flexible demand customers outside the scope of the SSEP to locate in areas of high generation, for example, may represent a missed opportunity to use demand growth to alleviate constraints, improve network utilisation and reduce the scale and cost of network reinforcement.

This returns to the two potential interpretations of the "future system" we alluded to in our introductory section and the need for a clear steer from DESNZ on the primacy of the SSEP and the role of siting levers.

It is also worth noting that, under any system in which a locational element of demand TNUoS is linked to the scope of the SSEP, it is vital to ensure that changes affect only new and prospective connections. This is very important given that inclusion in the SSEP is determined through a planning and governance process, rather than by physical system characteristics.

In this context, Regen believes there is a strong case for fixing locational TNUoS tariffs at the point of final investment decision, consistent with the approach we and others advocate for generation assets. This would improve predictability for investors and help ensure that changes to the scope or methodology of the SSEP do not retrospectively alter locational charging outcomes for existing demand customers.

Provisional considerations for storage

Addresses question 19

The siting of storage on the system is important, particularly from the perspective of constraints management. However, locational charging can only provide part of the incentive framework for storage. The commercial viability of storage in constrained zones will also depend heavily on wider market arrangements, including access to balancing, wholesale and ancillary service revenues and the extent to which operational arrangements allow assets behind constraints to participate in wider markets.

This means that reforming an individual signal, such as that provided through the locational element of TNUoS, to better incentivise the beneficial placement of storage assets cannot be

done in isolation from other reforms. Doing so would amount to trying to force storage assets to operate in a way which has a weaker underlying business model.[9]

There are, however, specific considerations for storage that should be reflected in the development of updated locational network charges not present in the current TNUoS arrangements, with storage classified broadly alongside generation. Storage assets, in many cases, will be working to alleviate system constraints and may reduce or defer the need for additional network build. Therefore, storage should not simply be treated as equivalent to generation or demand. The design of network charges for storage must reflect the fact that assets respond to different operational and economic drivers and are bi-directional. Tailored signals are needed to reflect where storage will add system value.

Similarly, there may also need to be a distinction between the treatment of long and short-duration storage assets, reflecting the material difference in the value they offer.

Treatment of legacy and transitional assets

Addresses questions 33-40

Regen agrees that there is a strong case for considering legacy and transitional arrangements (LATs) as part of any significant reform to locational charging. Existing projects will often have taken final investment decisions based on a materially different understanding of future TNUoS costs and methodologies. Additionally, retrospective exposure to substantially different charging arrangements risks undermining investor confidence at a critical point in the delivery of the Clean Power Plan. This is particularly important given the scale of unexpected increases in TNUoS costs already experienced by some generators, especially in Scotland.

More broadly, there is a wider principle that locational charges should not change materially after the point at which assets cannot realistically respond to signals through siting decisions.

However, Regen does not consider that legacy arrangements should simply seek to preserve existing charging outcomes indefinitely. The objective should instead be to manage the transition toward a more strategically aligned and predictable charging framework that balances investor certainty, fairness between existing and new assets, and the need to maintain meaningful locational signals over time.

In line with the principles discussed elsewhere in this response, we believe there is a strong case for fixing locational TNUoS exposure at, or close to, the point of final investment decision for both generation and large demand assets. Any transitional arrangements should also seek to avoid creating cliff edges, excessive complexity or arbitrary distinctions between technologies, routes to market or connection dates. The interaction between LAT arrangements

[9] Section B3 – Locational signals for consumers, Progressive Market Reform Agenda, Regen 2024

and wider reforms to connections, CfDs and strategic planning will also be important and should be considered holistically rather than in isolation.