

Energy UK response to Ofgem's Open Letter on Strategic Transmission Charging Reform

16 November 2023

About Energy UK

Energy UK is the trade association for the energy industry with over 100 members - from established FTSE 100 companies right through to new, growing suppliers, generators and service providers across energy, transport, heat and technology.

Our members deliver nearly 80% of the UK's power generation and over 95% of the energy supply for 28 million UK homes as well as businesses.

The sector invests £13bn annually and delivers nearly £30bn in gross value - on top of the nearly £100bn in economic activity through its supply chain and interaction with other sectors. The energy industry is key to delivering growth and plans to invest £100bn over the course of this decade in new energy sources.

The energy sector supports 700,000 jobs in every corner of the country. Energy UK plays a key role in ensuring we attract and retain a diverse workforce. In addition to our Young Energy Professionals Forum, which has over 2,000 members representing over 350 organisations, we are a founding member of TIDE, an industry-wide taskforce to tackle Inclusion and Diversity across energy.

Summary

Energy UK welcomes the publication of this Open Letter. It is right that Transmission Charging is reviewed at this time, particularly in light of the ESO's recent 10-year projections, which highlight the risk to investment in renewable infrastructure that the current charging design brings. In particular, Energy UK supports Ofgem leading this debate whilst the Future System Operator is being established. In the long run, clarity over who will be responsible for charging design would be welcome.

The scale of delivery required for a decarbonised electricity system by 2035 means that we cannot afford an investment hiatus in Great Britain. Ofgem needs to urgently review and agree the underlying TNUoS methodology, tariffs need to be made more predictable and consideration needs to be given on how some level of longer-term assurance is provided to generators through these reforms.

It is vital that transmission charging reforms are delivered quickly, with any resultant code changes expedited. With this in mind, Ofgem should not let the perfect be the enemy of the good.

Ultimately, the purpose of this work should be to establish the most efficient charging regime for network users. Regardless of where costs for transmission infrastructure are recovered, consumers will end up paying.

Consultation Questions

1. *Do you agree with the need to consider the future role and design of transmission charges in light of system changes and developing policy reforms? Which of these policy areas do you deem as more or less material?*

Yes, the level of investment required to reach Net Zero necessitates a review of TNUoS. Transmission charging also has extensive interactions with the Review of Electricity Market Arrangements (REMA) and implications for locational investment and operational signals.

Energy UK is supportive of the infrastructure investment certainty offered by the ASTI framework, but the ESO's recent 10 year TNUoS projections are alarming and demonstrate the case for change.

Spatial planning is another important driver for reviewing TNUoS, with increased central co-ordination and planning of infrastructure through measures such as the Strategic Spatial Energy Plan (SSEP), and the Centralised Strategic Network Plan (CSNP), which is likely to have a material bearing on the siting of assets. The future of locational signals delivered through TNUoS must be coordinated with these future planning programmes in order to provide the predictability that will ensure efficient delivery of investment.

- 3. Do you see reasons to alter our current view not to design transmission charges to send dynamic operational signals for generation and demand in the longer-term?*

No, we agree with Ofgem's position that signals delivered by TNUoS charges should focus on long-term investment decisions, rather than dynamic operational signals. Consistency and predictability will be key to ensuring transmission network charges provide an effective investment signal. Some members suggest that if operational signals are to be delivered through TNUoS, one method could be through an updated version of the Triad scheme, which could be delivered without major reforms.

- 4. In addition to those described above, what would be the other key characteristics of a future design, for the transmission charging framework, to enable its effective incorporation into investment decisions so as to achieve cost-effective net zero?*

Some members suggest that in a more centrally-planned system, that could result from developments such as the SSEP proposed by the Electricity Networks Commissioner, assets will be very limited in where they can site, with their siting defined by the SSEP. In this instance, there would be no need for locational investment signals to be delivered through TNUoS, and it could be a purely cost-recovery mechanism. This would appear consistent with Ofgem's Targeted Charging Review decision that revenue collection should be wholly from final demand, while the charges paid by generators should only have the purpose of providing price signals and not be used to collect revenue.

On the other hand, some members suggest that locational signals will still be useful, since there is still scope to influence siting decisions under the SSEP. This future uncertainty in locating assets is evidenced by the current oversubscribed connections queue.

- 6. Do you have any views on which of these approaches would be more effective, considering the energy transition?*

We agree that these are all factors that merit full investigation as part of a redesign of transmission charging, there are none that we would recommend ought to be dropped altogether, however we urge that signals be considered in light of the target state, an optimised net zero whole energy system, rather than current state transmission network.

- 7. Do you agree that TNUoS charges should reflect planned future network conditions rather than actual network conditions?*

Most members believe that future network conditions should be reflected in TNUoS charges. This will give certainty to projects that their charges won't wildly change due to network upgrades that weren't planned when they made their initial investment decisions.

Whilst we recognise that the 10-year TNUoS projection published by NGENSO in 29 September 2023¹ is unlikely to be an accurate representation of charges at that time, if these charges were to materialise, this would constitute a "do not invest" signal for many developers seeking opportunities in

¹ <https://www.nationalgrideso.com/industry-information/charging/transmission-network-use-system-tnuos-charges>

Scotland. It would also be a “close early” signal to renewable generation projects currently in operation in the Northern half of Scotland. Some members suggest that the “expansion of current state network” approach to locational transmission charging signals runs contrary to the signals being sent by Offshore wind leasing, planning consents, wind resource and availability of land. It therefore seems likely that such signals would conflict with the locational signals to be sent by a SSEP, and it is vital that the current TNUoS regime is amended in order to not hinder investment.

Other members have suggested that a third network representation should be used, with charges based on the incremental long-run marginal cost caused by the network user’s investment decision at the point they make that decision. This measure of long-run marginal cost is likely to be different from “actual current network conditions” because of the varying levels of network investment over time and any short-term network investment decisions the ESO or Ofgem introduce. It is also different from “planned future network conditions”, which may reflect future costs arising from new future government policy decisions, such as those relating to net zero ambitions and long-term strategic network planning decisions taken by ESO and Ofgem. These costs are not caused by the investment decision of the user in question, and existing users are unable to usefully respond to them.

8. *Do you agree that the frequency of reset should be longer than ‘real-time’, to ensure an effective investment signal can be sent?*

Yes, Energy UK agrees that TNUoS should send investment signals rather than operational signals. Long-term certainty is critical for investors, and real-time changes to TNUoS charges would run contrary to this.

9. *Have you any views on how trade-offs between predictability and cost-reflectivity in considerations of how frequently network charges should be reset should be managed?*

Some members suggest that cost-reflectivity of network investment and use should be seen in the context of the whole system cost of energy. Signals that are reflective of only network investment costs may not enable the best value net zero whole energy system for the consumer. Due consideration must be given to the scale of investment required in order to decarbonise the power sector by 2035 and achieve Net Zero by 2050, which can only be delivered through predictable charges. If TNUoS is to be an effective investment signal then this trade-off must be set in a way that encourages efficient investment.

Other members consider that there is no reason why providing the correct signal of cost of using the network should result in a sub-optimal decision overall, unless it runs contrary to some other investment signal. In this case, it is the other signal that would require correction, rather than amending TNUoS to remove the cost-reflectivity.

10. *Is there an enduring justification for paying credits to generators, specific to their siting location, through their transmission charges?*

Negative generator TNUoS charges arising in the South of GB, and forecast to become increasingly negative in coming years, have arisen largely as a result of application of the adjustment required to achieve compliance with the €2.50/MWh generator transmission charging cap. Some members suggest that negative TNUoS charges are therefore not reflective of avoided locational transmission investment costs and are effectively supplementing the revenues of predominantly fossil fuel power stations located in the South of GB with no benefit to the wider GB transmission system. In light of the need to decarbonise the electricity system by 2035 and enable a net zero whole energy system by 2050, these members believe there is justification for ending negative generator TNUoS.

Other members suggest that there is an enduring justification for paying credits to generators as those that choose to locate close to demand reduce the overall need for reinforcement or additional transmission build, compared to if they’d chosen to locate elsewhere. In turn this could help net zero objectives to be achieved more efficiently and economically. These members note that the TNUoS

model produces relative differences in TNUoS charges, so that removing negative charge zones would cause other charges to increase to ensure the differential is maintained.

Finally, some members suggest that charges and credits should be provided only if users can usefully respond to them. Currently, locational price signals are sent to some types of users but not to others. Now would be an appropriate time to review this policy to ensure that price signals are given in the most useful way. This would point to some types of demand technologies having demand credits reinstated, while existing charges for some generation should be removed.

11. How should the distinct characteristics of storage assets be reflected in their treatment in network charging, to encourage optimal investment outcomes across the large storage development pipeline?

Electricity storage assets could be given specific treatment in TNUoS to encourage siting near areas with net supply. The extent of the use of and predictability of the operation of storage will be significantly linked to the service(s) that it provides to the system or to the market. However, reinforcement works associated with its grid connection are as much associated with application of standards and planning assumptions as it is with the actual operation of the storage asset.

The extent of the significance of storage in enabling a flexible net zero whole energy system is starting to be recognised across the regulatory framework, most notably in the Grid Connection process in which the transmission system impact of storage is now being assessed on a 0MW basis. The same principle (i.e. a probabilistic and holistic view of the impact / benefit of storage) should be fed into an urgent review of transmission charging.

12. Within the range of storage assets, what distinctions should be taken into account in the charging approach?

As noted in response to question 11, the operational behaviour of storage assets will be significantly influenced by the services that those assets provide and many of these services are critical to the security and stability of the whole energy system. The typical operating requirements of these services (typical service durations, seasonal expectations, weekday / weekend variations) should be considered in identifying forward looking system investment impact / benefit.

13. To what extent should transmission charges send locational signals to large demand users of the network?

Currently, the locational aspect of TNUoS for demand is small compared to the residual element. In order to provide a stronger locational signal, the locational charge could be made more significant. Some members suggest that TNUoS could be allowed to become negative in areas where there is a surplus of generation. In general, generation that locates in demand heavy areas should benefit, and vice versa for demand in generation heavy areas. This is particularly important in highly constrained areas, such as around the B6 boundary. As above, some members suggest that a reformed triad scheme could be introduced to further sharpen the signal for large demand users.

Other members note that for generation, the current variation between the North and South of GB is already high enough, with the residual, resulting from EU legislation, operating as intended.

14. What level of locational variation in charging is appropriate, for smaller demand users who are not generally expected to change siting decisions based on the signal?

Some members consider that small demand users are limited in their ability to respond to locational investment signals and therefore that these users should not be exposed to strong differences. This is not necessarily the case for operational signals.

Other members suggest there is a good case for exposing small users to more cost reflective locational network charges. Although they may be unable to change location, they should be encouraged to invest in technology to change their network use.

15. *If there are significant increases in the costs recovered through the residual charge, should alternative charge designs be considered?*

Some members support the investigation of alternative charge designs. However, the objective must be to establish useful charging signals that will efficiently enable the establishment of a decarbonised whole energy system. If the current balance of locational signal and residual charge recovery doesn't align with that objective, then we would support that it be reviewed.

16. *Should transmission network charges play a role in encouraging households and small businesses to make efficient investments in low carbon technologies?*

No; there are other mechanisms to encourage take-up in low-carbon technologies. This includes access to technology-specific smart tariffs, government uptake schemes, flexibility markets, and measures that encourage reducing primary energy consumption or emissions.

It is important that the transmission charging regime works for current and future consumers, as well as the range of technologies that consumers will need to adopt to facilitate the net zero transition. This means incentivising future-proofing, rather than piecemeal upgrades to the grid as utilisation increases. An example of this is public electric vehicle charging, which is currently disincentivised from building sufficient capacity for future users.

17. *How should charges for large generators and large demand users at different voltages account for the increasing proportion of distributed generation and the changing nature of network flows?*

Energy UK would support changes to electricity network charging that remove arbitrary distortions between voltages and which encourage efficiencies on a whole system basis, provided those signals are aligned with the efficient delivery of the future net zero whole energy system.

18. *Should there be greater alignment of charging obligations and methodologies for transmission- and distribution-connected assets, to encourage efficient connection voltage choices by generation and storage assets?*

Energy UK doesn't necessarily believe alignment between Transmission and Distribution level charging is appropriate. For example, some members believe that DUoS could be more appropriate for sending operational signals, depending on the outcome of REMA. There are some key differences in terms of network topology, types of assets connected and visibility that mean there could be very valid reasons for taking different approaches at distribution and transmission level.

In terms of connection costs, this should broadly align between transmission and distribution to avoid distorting investment.

19. *Should transmission charges be used to signal the relative costs of network congestion (i.e. internal constraints and cross-border congestion) in different areas?*

Energy UK would suggest that this question should be considered further following the REMA decision, particularly with regard to the efficient operation of interconnectors in a renewables-dominated system.

20. *What are your views on the potential implications of market reform and system planning outcomes on the benefits of different long-term transmission charging options?*

System planning outcomes should set the future view of the transmission network on which long-term, predictable charges should be based.

Whilst a majority of Energy UK members do not support a move to Locational Marginal Pricing (LMP)², if it is introduced, this will change the benefits case for locational investment signals through TNUoS. It may also be appropriate to simplify TNUoS in this case, to a purely cost-recovery

² [Energy UK high-level views on Locational Marginal Pricing](#)

mechanism. On the other hand, reform to transmission network charging to deliver more effective locational investment signals is likely to impact the case for a move to LMP.

21. Should locational signals from transmission charges be adapted where cost-reflective charges conflict with other policy goals and electricity market signals?

Some members suggest that the planning system provides different signals to network charging signals and it's the choice of developers to weigh these up and decide where to build their assets. The fact that they may conflict is not inherently problematic, however, it makes investment decisions more challenging, which is exacerbated as the system becomes more constrained. This reinforces the need for a more coordinated approach amongst the ongoing suite of reforms to ensure an optimised TNUoS that fits the future net zero energy system.