Energy Intensive Users Group

Kings Buildings

Smith Square

SW1P 3JJ London

07951 387 408

**EIUG Response to the House of Lords Industry and Regulators Committee’s Call for Evidence into The Energy Grid and Grid Connections**

**Introduction**

1. The Energy Intensive Users Group (EIUG) is an umbrella organisation that represents the interests of energy intensive industrial (EIIs) consumers. Its objective is to achieve fair and competitive energy prices for British industry. It represents manufacturers of steel, chemicals, fertilisers, paper, glass, cement, lime, ceramics, and industrial gases. EIUG members produce materials which are essential inputs to UK manufacturing supply chains, including materials that support climate solutions in the energy, transport, construction, agriculture, and household sectors. They add an annual contribution of £29bn GVA to the UK economy and support 210,000 jobs directly and 800,000 jobs indirectly around the country.
2. These foundation industries are both energy and trade intensive and continue to invest in the UK. To compete globally, EIIs need secure, internationally competitive energy supplies and measures to mitigate the risk of carbon leakage. However, inward investment, growth and competitiveness have been hampered for years by UK energy costs being higher than those abroad. This has increased the risk of carbon leakage and deterred investments in decarbonisation. In some cases, investment, economic activity, emissions and jobs have relocated abroad, leading to a subsequent increase in imports, decrease in productivity and reduction in UK GDP.
3. This response focuses on those questions in the call for evidence of most interest to EIIs.
4. The EIUG’s main point is that access to adequate electricity grid infrastructure represents a major constraint for industry to decarbonise and Government to reach Net Zero. It is likely many of the submissions to this call for evidence have been submitted by renewable generators, however, the EIUG believes that it is crucial to recognise the impact of grid connection issues on the demand side. New or upgraded transmission or distribution network connections are required to enable industrial users to deploy a range of technologies, such as electrification, hydrogen and CCUS, critical for reducing greenhouse gas emissions in industrial and manufacturing sectors. The UK risks that companies decided to put their investments in industrial decarbonisation in other countries because the network operators cannot provide the connection in time.

***Question 1. What is your view of the National Energy System Operator’s proposals to reform the connections queue? Will those changes be sufficient to ensure that projects necessary to meet the clean power target will be able to connect in a timely way? If not, what further changes are needed?***

1. The EIUG support the NESO’s proposals to reform the connections queue. However, despite the measures it has already implemented, the capacity in the queue has kept on growing. The reform proposals recently consulted on will likely reduce the volume of the queue, but probably not to the extent NESO hopes. Its announcement of a pause in new connection application is an indication of this issue.
2. The EIUG believes that sooner or later the NESO must prioritise which new connections to progress. It currently already has a [prioritisation framework](https://www.neso.energy/document/346661/download) in place focussing on projects that can provides services to the grid, projects that are new technologies and/or highly innovative and/or projects with very long lead times, but the EIUG deems this not sufficient to facility new connections to meet the 2030 Clean Power target or connect demand users to meet the Net Zero target by 2050. It is not in the NESO’s remit to decide what framework to use to prioritise new connections to meet the Government’s wider Net Zero objectives as it is for the latter to balance the various trade-offs. The EIUG pointed this out in its submission to the industry code modifications to implement the NESO’s reform proposals.

***Question 6. Are Ofgem’s price controls and regulatory regime appropriately balanced to ensure the necessary network investment to meet the UK’s clean power target? Are changes needed to ensure greater network investment, and if so, what should those changes be?***

1. The EIUG thinks that the regulatory regime is not appropriately balanced to ensure the necessary network investment. The UK needs greater network investment, but it now risks inefficient over-investment in network capacity to meet demand. Such inefficient over-investment will lead to higher network charges in electricity prices.
2. NESO’s predecessor used to have a financial incentive in place to encourage large demand users to reduce consumption at peak demand times to avoid inefficient over-investment in the network, thereby lowering the Transmission Network Use of System charge. The table below shows the NESO’s processor’s maximum estimated reduction in capacity in response to triad in the past winters.

|  |  |
| --- | --- |
| Winter  | Max Est. Capacity (GW) |
| 2021/2022 | 1.3 |
| 2020/2021 | 1.7 |
| 2019/2020 | 2.3 |
| 2018/2019 | 2.4 |
| 2017/2018 | 2.0 |
| 2016/2017 | 2.0 |
| 2015/2016 | 2.0 |
| 2014/2015 | 1.2 |
| 2013/2014 | 1.8 |
| 2012/2013 | 1.2 |
| 2011/2012 | 1.0 |
| 2010/2011 | 1.2 |
| 2009/2010 | 1.0 |

*Source: NG ESO’s Winter Review and Consultation reports and National Grid ESO Power Response Demand Side Flexibility Report 2019.*

1. However, Ofgem has significantly reduced the triad’s financial incentive as part of its targeted charging review to the extent that large demand users have little incentive to reduce demand on the grid at peak times. Furthermore, as the TCR changed the methodology to allocate TNUoS charges – and together with changes to BSUoS charges - steel producers who previously paid around £10/MWh in network charges now pay up to £30/MWh in network charges which is substantially higher than the £0.5-1/MWh paid in France and Germany, according to UK Steel’s latest [report](https://www.uksteel.org/electricity-prices) on industrial electricity prices. Government has introduced a compensation scheme of up to 60% for the cost of network charges for eligible energy intensive industries, but the scheme does not bring down network charges to the level in those countries.
2. NESO’s demand flexibility service (DFS) has not replaced this capacity reduction. Also, it has a different objective: DFS focusses on operational security of supply and Triads focused on reducing peak demand to reduce inefficient longer term investment in network capacity.
3. Ofgem promised to replace the triad incentive in some form during the TCR regulatory process as part of its charging futures work programme, but this has never materialised.
4. The EIUG and Major Energy Users Council (MEUC) invited NESO’s predecessor to discuss how best to capture the volume of triads that might be lost and reforming any of its DSR instruments so industrial and commercial energy users can continue to support it in its ability to manage system operability and contain network costs for all GB consumers.

***Question 7: What incentives need to be introduced to encourage generation and energy demand to locate closer to one another? Should this be done through locational pricing, and if not, should network charges be reformed to provide these incentives?***

1. The EIUG recognises the need for reform of electricity market arrangements to address increasing constraint and network costs, as a result of moving towards a more renewables-based system. However, whether introducing zonal pricing is the best option is not clear and might increase electricity prices for energy intensive industries, depending on the zone and assumptions about cost of capital.
2. There is currently no recent economic analysis or good understanding about how locational pricing, including zonal pricing, might directly impact energy intensive industries. A short EIUG poll of its members showed that there are other variables, such as access to raw resources, electricity network connection and good transport infrastructure, that determine the location of investments as well, instead of only electricity prices, let alone a locational signal as part of the electricity price.
3. The EIUG agrees with the recent UKERC [working paper](https://ukerc.ac.uk/publications/locational-signals-in-a-reformed-national-market-a-review-of-options/#:~:text=Locational%20signals%20are%20at%20the,assets%20connected%20to%20the%20network.) on locational signals in a reformed national market that “*there is a strong case to consider the full range of factors that might provide opportunities to enhance locational signals. The regulatory, market and policy context as a whole is what affects market participants' risks and revenues, and hence investment and operational decisions. The feasibility and materiality of many options requires additional investigation, but the analysis presented in [their] report demonstrates that there is a strong case for undertaking this additional work. We are concerned that REMA has taken too narrow a view on what could be implemented as part of a reformed national market, and as the review moves through the next phase of assessment, the UK Government needs to broaden that perspective to ensure that the best possible reformed national market*”.
4. And additionally and importantly: “*The purpose of any element of electricity market and system design must be to deliver overarching societal objectives. In a liberalised electricity system, objectives are achieved primarily by the combined action of market participants operating on a commercial, competitive basis. Therefore, locational signals should drive the behaviour of individual market participants in directions that support the delivery of societal objectives, [such as]: economic development, delivery of industrial strategies, regional development, etc*”.

***Question 8. What is your view of Ofgem’s proposals to require a higher standard of service to connection customers from distribution networks? Should there be a greater standardisation of application processes and connection deadlines, with compensation for customers if they are not met?***

1. The EIUG supports Ofgem’s proposals to require a higher standard of service to connect customers from distribution networks. Anecdotal feedback from energy intensive industries is the different connection processes cause confusion. Some energy intensive industries have assets connected to different distribution network operators and this they are confronted with different processes to change a connection. Standardisation will help.
2. The EIUG is not sure whether compensation will help, given the scale of associated decarbonisation investments, as clarity over the connection process with a clear connection deadline is key. This information will strengthen any internal business case to deploy low carbon industrial technologies.

***Question 9. Is there sufficient strategic planning for distribution networks? What will Regional Energy Strategic Plans need to deliver in order to be a success?***

1. The EIUG does not yet see sufficient strategy planning for the distribution networks, as most of the focus has been on the transmission network. However, the Regional Energy Strategic Plans can contribute to a more strategic plan if they and the Centralised Strategic Network plan inform each other and are joined up.
2. The EIUG continuously highlight the decarbonisation plans that the UK’s industrial cluster organisation have developed. The projects to deliver on those plans are likely to have a significant impact on the Regional Energy Strategic Plan and – depending on the make-up of the cluster – require upgrades in transmission and/or distribution connections.
3. The EIUG believes that there is also not (yet) sufficient strategic planning between Government, NESO, Ofgem and large demand users. Without such coordination, investments by energy intensive industries to electrify will be hampered.

***Question 10. Is there sufficient focus on connecting sources of demand, such as businesses, to energy networks, as well as connecting new sources of energy supply? How can the needs of potential consumers of energy be balanced with the need to ensure adequate supply?***

1. The EIUG does not think there is sufficient focus on connecting sources of demand. Though the NESO recognises demand connection and the EIUG and ADE are on its Connection Programme Advisory Group, demand features little in the mode detailed proposals and code modification at transmission network level. Most energy intensive industries are still connected to the distribution network though, where issues to connect demand are likely to be more prevalent than at transmission level, depending on the distribution network.
2. The EIUG would like to draw the committee’s attention to a [briefing note](https://idric.org/resources/briefing-note-grid-constraints-and-industrial-decarbonisation/) from the Industrial Decarbonisation Research & Innovation Centre (IDRC) about grid constraints and industrial decarbonisation. It states that “*Access to adequate electricity grid infrastructure currently represents a major constraint on UK Net Zero efforts. While the prevailing discussion to date has focused on delays to connecting large scale renewable projects, it is crucial to recognise the impact of grid connection issues on the demand side, where new or upgraded grid connections are required to enable industrial users to deploy a range of technologies critical for reducing fossil fuel use, and therefore greenhouse gas emissions, in industrial and manufacturing sectors*” and its key findings are:
* In addition to electricity generation, grid connection delays present a significant risk for demand side decarbonisation measures, including electrification, hydrogen, CCUS, energy efficiency, onsite renewable generation and electricity export.
* Many companies report delays of several years, with some offered connection dates as late as 2037, increasing cost, risking critical investment and loss of opportunities to tackle industrial emissions.
* Grid delays may have an impact on the decarbonisation of businesses and sectors downstream in the supply chain, due to delays to the supply of low carbon and sustainable fuels.
1. The EIUG advocates that DESNZ develops a framework for prioritisation for network connection based on the Government Net Zero objectives for Ofgem and NESO to apply. This goes beyond NESO’s methodology for designated projects (see above). In particular, the EIUG advocates prioritising those project that deliver the most greenhouse gas emission savings.

***Question 12. Is there sufficient coordination between Government policy and the regulatory processes and frameworks for energy networks? Should the Government provide greater strategic guidance to the sector on how to drive growth and grid expansion, for instance by providing greater clarity on trade-offs through its Strategy and Policy Statement for energy policy?***

1. The EIUG believes that there are sufficient governance processes in place to between the Government, Ofgem and network operators, but it will remain a challenge to ensure that this translates in sufficient coordination on substance. The EIUG is insure whether the SPS is the best tool to provide that strategy guidance for better coordination as it has pointed out that the Government’s policies to mitigate the risk of carbon leakage for energy intensive industries is not reflected in the current SPS for example.

Arjan Geveke

Director EIUG