UK STEEL – SUBMISSION TO THE INQUIRY ON THE ENERGY GRID AND GRID CONNECTIONS

Date: 28th February 2025

About UK Steel

UK Steel, a division of Make UK, is the trade association for the UK steel industry. It represents all the country's steelmakers and a large number of downstream steel processors.

Submission to the inquiry on the energy grid and grid connections

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?**

UK Steel welcomes this enquiry into the energy grid and grid connections, given the urgent need for reforms to the electricity network connections process to facilitate the transition to a clean energy system and achieve decarbonisation goals. The lack of network connections has threatened investment into new electric arc furnaces in the steel industry and jeopardised the transition away from blast furnaces to low-carbon steel production. This continues to be a problem for the steel industry as it seeks to electrify parts of its production processes further. In addition to reforming the connection queue, the UK must significantly increase investment in electricity network infrastructure, including transmission capacity. This is crucial to support the connection of new renewable generation and ensure the reliable delivery of power to industrial users.

Furthermore, grid reforms are essential to rapidly decarbonising the grid, which in turn will be vital to driving down indirect emissions of Electric Arc Furnace production. Not only would this reduce the emission of EAF steel production, but it would also provide a competitive advantage within the UK's Carbon Border Adjustment Mechanism (CBAM) if Scope 2 emissions are considered.

For background, steel production is very energy-intensive, and the price of electricity is a fundamental and unavoidable input cost for steelmakers, but the sector has been crippled by uncompetitive electricity prices. UK Steel analysis shows that UK steel producers are paying up to £22 per megawatt-hour (MWh) more for electricity than their French and German competitors. Specifically, UK Steel's analysis finds that UK steel producers typically face an average electricity price in 2024/25 of £66/MWh compared to the estimated German price of £50/MWh and French price of £43/MWh. This means UK steelmakers pay up to 50% more than their main competitors. This is in part caused by higher network charges, as the French and German governments reduced grid connection charges for industry by 80-90%, compared to the UK's 60% compensation. Where French and German steel sites have network prices at around £1-3/MWh, UK steelmakers face charges closer to £9/MWh after compensation is applied.

2. **It is possible that the removal or deprioritisation of projects in the connections queue could be subject to legal challenge. What protections will NESO and networks need from any legal challenges which could arise as a result of changes made to the connections queue?**

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3. **What barriers to delivering energy network infrastructure are imposed by the planning and consenting system? To what extent do these barriers relate to the resourcing of the various planning authorities, or to levels of community consent for this infrastructure? What is your view of the Government's proposals to address these barriers, and are further changes needed?**

We welcome the Government's proposals to address the barriers created by the planning and consenting system. We would point to the difference in securitisation requirements for generation and demand connections, which unnecessarily restricts capital within the steel industry. When commissioning a new connection, National Grid requires an increasing level of securitisation to minimise their exposure in case of termination of contracts, and this requirement increases through the process of the grid connection build. In contrast, the similar securitisation requirement decreases through the grid connection process for generational

assets. This limits the capital investments companies can make during the commissioning of the connection. We would suggest that these requirements are equalised between generation and demand connections.

4. **What community incentives and/or obligations might best enable grid expansion, and how should they be decided?**

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5. **How can environmental considerations be accommodated in extending the grid network?**

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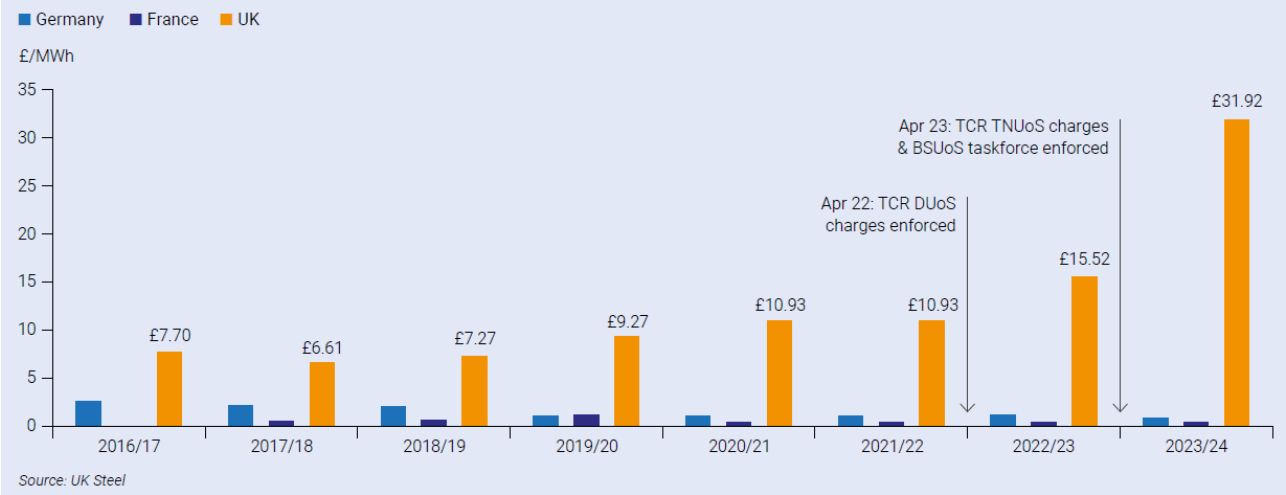
6. **Are Ofgem's price controls and regulatory regime appropriately balanced to ensure the necessary network investment to meet the UK's clean power target? Are changes needed to ensure greater network investment, and if so, what should those changes be?**

We would urge caution when allocating network charges to consumers. Previous network charges reforms, such as the Targeted Charging Review (TCR) and the BSUoS Taskforce, have increased charges substantially for Energy Intensive Industries (EIIs), like steel. As evidenced in the figure below, where steel producers previously paid around £10/MWh, charges increased up to £30/MWh, substantially higher than the £0.5-1/MWh paid in France and Germany.

Network charges faced by a typical steel producer in the UK, France, and Germany 2016-2023



With network charges over 30 times higher in the UK than in France and Germany, the previous Government introduced the Network Charging Compensation (NCC) scheme in 2024, which provided 60% compensation for network charges for eligible EIIs. Network charges are now around £9/MWh, which is still much higher than in France and Germany but less than previously.

As the UK increases investment in new network infrastructure, it must be careful with how those charges are distributed and the impact they have on trade-intensive industries like steel.

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?**

We recognise that reform is needed in the wholesale market, and the status quo will not be sustainable. We have, therefore, engaged thoroughly with DESNZ through the Review of Electricity Market Arrangements (REMA) process. One of the proposals being considered is zonal pricing, where the current national market would be split into three to 15 separate electricity markets across the UK, and electricity prices would be determined in each.

Splitting the electricity market into separate zones creates uncertainty for investors in new power generation and consequently increases the cost of capital for renewable energy projects. This could mean that *"locational*

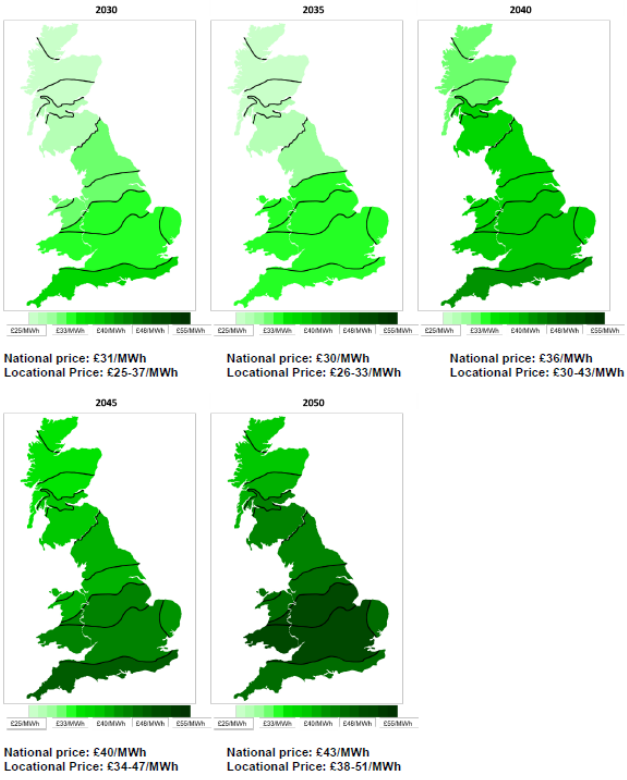
pricing becom[es] a net cost to the system"[1]. As a result, RenewableUK, the trade body for the on- and offshore wind industry, has urged DESNZ not to pursue zonal pricing alongside SolarUK, Global Infrastructure Investor Association, Offshore Energies UK, and Scottish Renewables.

UK Steel has similarly expressed concerns about zonal pricing, as it will penalise steel producers and EIIs due to their existing locations, which they cannot change and were often chosen due to access to raw materials. Steel production is incredibly electro-intensive, and power costs can represent up to 180% of steel producers' Gross Value Added (GVA) in the UK. With a switch to electric arc furnaces, it is expected that the sector's electricity consumption will roughly double. Competitive electricity pricing is, therefore, paramount to the steel industry's growth, competitiveness, and profitability. DESNZ claims that businesses that can invest in lower-price zones will benefit, but the steel sector cannot relocate due to existing assets, impact on jobs, loss of skills, and practical implications. The long implementation time of zonal pricing creates uncertainty around future electricity prices, which dampens investment in the steel industry and overall industrial electrification, as competitive electricity prices are critical to these investments.

Proponents of zonal pricing argue that it will reduce constraint costs, encourage new factories and other demand to locate in zones with lower prices (primarily Scotland) close to existing generation (which in turn reduces the need for network investment), and will incentivise new wind farms to locate closer to existing demand, which will ultimately reduce the system costs. However, as outlined above, there is a real risk that locational pricing will increase the cost of capital, which will instead increase system costs. Similarly, while some new investment could be made in lower-cost zones, it will be outweighed by penalising all existing manufacturers who cannot move their sites across the country. Finally, when locating offshore energy production, key determinants will still be where seabed has been made available by the Crown Estate and/or high wind speeds. While zonal pricing wishes to incentivise more energy generation closer to demand, it cannot change wind speeds or the location of the North Sea. Fundamentally, the UK must increase its investment in electricity network and transmission capacity, as it needs to transport electricity from the offshore wind farms in the North Sea to demand centres.

While DESNZ has not yet presented a full assessment of zonal pricing's impact on EIIs, it has presented analyses which show that electricity prices are likely to vary considerably across the UK, creating a postcode lottery for consumers. The steel industry is placed in higher-price zones, damaging its competitiveness, and adversely impacting decarbonised electric steelmaking. Indeed, the analysis procured by the Government concluded that *"On average, demand weighted wholesale prices are slightly higher in the locational pricing factual than the national counterfactual. Prices in high demand zones show price increases compared to a national pricing counterfactual. […] This leads to increased consumer costs from wholesale pricing, as consumers have to pay more for their energy usage in some zones"*. Zonal pricing, therefore, goes against the Government's commitment to reduce industrial power prices, leading UK Steel, MakeUK, British Glass, Ceramics UK, and Community Trade Union to urge DESNZ to reconsider introducing zonal pricing.

Zonal price maps from DESNZ commission report
(Darker colour indicates higher prices)



The alternative to zonal pricing is reformed national pricing, where several less radical and disruptive changes are introduced. DESNZ has proposed several options, such as using Ofgem's pre-existing network charging reform programme and transmission network access arrangements, expanding constraint management measures, optimising cross-border interconnectors use, introducing locational signals in the Capacity Market and Contracts for Difference schemes, shorter settlement periods, and tighter gate closure on grid balancing. The Government must produce modelling and an impact assessment of these proposals to

[1] LCP Delta and Grant Thornton (2023), System Benefits from Efficient Locational Signals, DESNZ research paper number: 2023/057.

allow the steel industry and others to assess whether these are more viable options. However, at present, they are preferable to zonal pricing.

Should the Government still proceed with implementing zonal pricing, despite the warnings from renewable energy developers, investors, manufacturers, and energy-intensive industry, DESNZ should take action to reduce the impact on the steel industry. This could include only applying zonal pricing to electricity generation, while domestic and non-domestic consumers still face national pricing. It must also consider introducing grandfathering and compensation for the steel industry to ensure it has access to competitive electricity prices.

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?**

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

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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?**

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11. **Does the current number of regulators and bodies involved in managing, overseeing and operating energy networks make it difficult to deliver at the necessary pace? How can these bodies work together efficiently, and with the Government, to deliver network infrastructure?**

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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?**

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