UK STEEL – SUBMISSION TO NETWORK CHARGING COMPENSATION SCHEME CONSULTATION

Date: 24 August 2023
To: energyintensiveindustries@beis.gov.uk

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 consultation on the Network Charging Compensation Scheme (NCC)

1. Do you agree with the proposal to compensate a proportion of all network charging costs? If not, please provide evidence.
We strongly support the proposal to compensate electro-intensive industry for 90% of all network charging costs by April 2024.

UK Steel has previously demonstrated that the average electricity price UK steel producers typically face is significantly higher compared to the estimated German and French prices. The price disparity was historically around £20/MWh, meaning that UK steelmakers faced electricity prices 50-80% higher than their continental competitors, but the Russia-driven energy crisis has since increased this disparity to £30-£90/MWh.

High electricity prices are consistently cited as harmful to the steel industry's ability to decarbonise its production, a major impediment to investment, and detrimental to its immediate market competitiveness. The reasons for this are worth noting:

- Steel production and processing is an energy-intensive process, and the production of millions of tonnes of steel each year consumes vast amounts of energy. Before the recent increase in energy prices, for the most electro-intensive producers, electricity represented approximately 20% of converting globally priced raw materials into finished steel products for consumers, and energy costs were even higher than Labour costs. After the rise in energy costs, energy is now the biggest cost for some steel producers.
- Steel is an intensively traded product, with some 25% of all steel produced globally being exported. Outside of China, over 40% of steel produced travel across borders, with the UK importing 60% of its requirements and exporting around 45% of production. The UK's main competitors are based in the EU, where most imported steel is produced and where most exported steel is going, making price differentials between the UK and EU competitors particularly important.
- The steel sector operates on relatively thin margins. Whilst there are increasingly specialised and high-value steels being produced, market requirements and economies of scale mean that the vast majority of steel made even in developed economies is commoditised and available from a broad range of sources. There is, therefore, intense competition, which keeps steel prices and margins low.
- High electricity prices generally reduce profit margins and thus lead to less reinvestment. Further, high electricity prices also act as a disincentive to investment from international steel companies, with the UK seen as a less favourable investment location than other countries.
- This electricity price disparity is a major barrier to meeting the Net Zero target since all options for decarbonising steel production, from CCS to hydrogen, to electric arc production, lead to significantly increased electricity consumption. Steel plant investment goes to the most cost-competitive regions, which will increasingly be those with internationally competitive power prices. In the case of switching to hydrogen-based production, for a comparably sized sector, this would cost over £340m more to run in the UK than in Germany just in terms of electricity prices (at a price disparity of £41/MWh). Equally, if all UK production were to convert to electric arc furnaces using scrap steel, the sector would face higher electricity costs of £225m (at a price disparity of £41/MWh). With the annual capital investment of the UK sector averaging £200 million, the current viability of a Net Zero steel sector in the UK will be brought into question without action on network charges.

Impacts of higher electricity prices

The disparity in electricity prices between the UK and its European competitors has several negative impacts on the sector:

1. Barrier to decarbonisation of steel industry: UK Steel has published a roadmap[1] for how the industry could substantially lower emissions by 2035, in line with the Climate Change Committee's recommendations. One of the main challenges identified within the Net Zero report is uncompetitive electricity. The Government's Net-Zero target will require fundamental changes to steel production in the UK and will necessitate substantial investment in new processes and equipment over the next dozen years. To meet this ambition, the steel companies will need to invest in new production methods, which all increase the sector's electricity consumption. There are broadly three routes to substantially reduce emissions for integrated steelmaking: Carbon Capture and Storage (CCS), Electric Arc Furnaces (EAF), and hydrogen-based steelmaking.

   The sector consumes 2.5TWh of grid electricity each year, the equivalent of 800,000 houses. With a sectoral switch to EAFs, the consumption would more than double to 5.5TWh and increase by five times for the affected sites. Hydrogen-based steel production would increase the entire sector's electricity demand to over 8.3TWh (assuming blue hydrogen is produced offsite via natural gas steam reforming), which would more than triple the whole sector's consumption but increase the demand of the affected sites by almost nine times. Finally, CCS experiences significant energy losses when capturing emissions, leading to much higher electricity consumption.

   With the price disparity of £41/MWh, it would cost £225m more to operate an electrified steel sector in the UK than in Germany or £340m more to run a hydrogen-based steel sector. As such, it would be challenging to see investment in decarbonisation in the UK over its key European competitors. Instead, investment would flow towards the most cost-competitive market.

2. Attracting investment: Long-term investment is greatly impacted by the electricity price gap. All apart from one of the UK steel producers are part of multi-national companies with facilities in the EU and four also operating outside the EU. In this context, the cost competitiveness of each particular market is crucial to attracting investment. Persistent cost disadvantages in the UK lead to underinvestment, which in turn leads to further erosion of competitiveness. As outlined above, this has huge ramifications for investment in decarbonisation and meeting the Net Zero target.

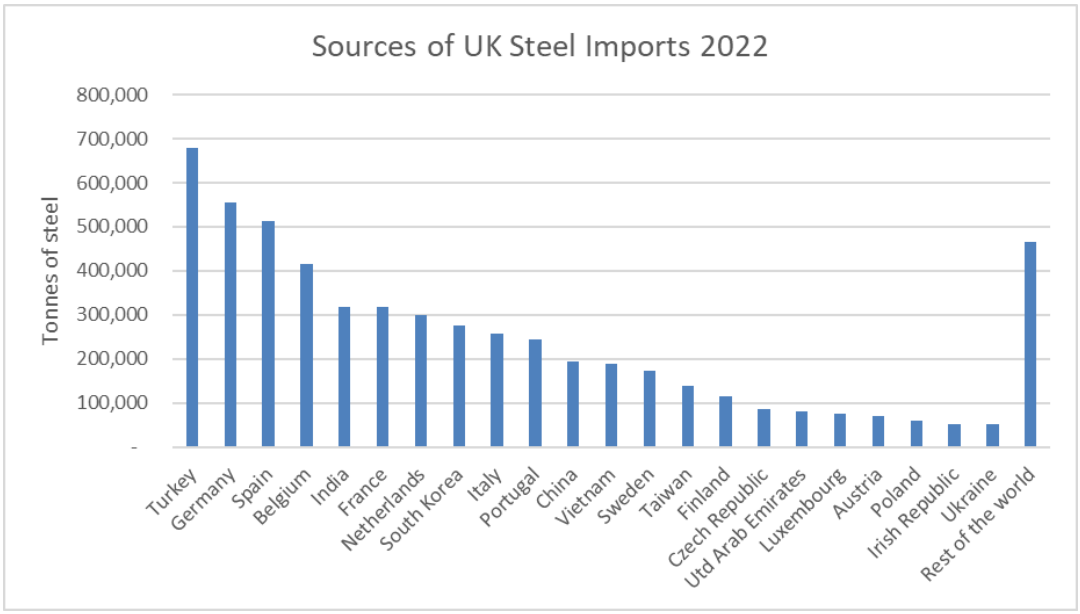
3. Competitiveness: The direct impact of the UK's high electricity prices is on the steel manufacturers' international competitiveness. Raw materials such as iron ore and coal are sold in global markets, and there will, therefore, be little difference in the price of iron ore used in, for example, France and the UK. It is where there are national and regional variations in costs that competitiveness issues arise. As steelmakers are competing in an international market, they are unable to pass on any additional costs over and above those faced by their competitors. A consistently higher energy price, therefore, impacts their ability to compete and diminishes their profitability. A price disparity of £41/MWh translates into a total additional cost to UK steel producers compared to those in Germany of around £100 million per year.

   Steel is a global commodity, intensively traded across borders. 25% of all steel produced travels across borders; this climbs to over 40% in markets outside of China, whilst the UK exports 45% of its steel production and imports over 60% of its direct requirements (i.e., not including steel in products). UK steel import penetration (i.e., the percentage of steel demand supplied by imports) has climbed from around 12% in the 1970s to 63% in 2021 due to a rapid increase in global trade, the removal of tariffs on steel products amongst developed nations, manufacturing supply chain integration across the EU, and a gradual decline in the UK's overall steel production capacity.

   The UK imports its steel from an increasingly wide range of countries. Whilst the vast majority come from the EU, mainly due to geographic proximity and integrated supply chains, countries such as Turkey, India, Vietnam, South Korea, Taiwan, and China are all major exporters to the UK now – each

[1] UK Steel (2022), Net Zero Steel: A Vision for the Future of UK Steel Production, https://www.makeuk.org/about/uk-steel/net-zero-steel---a-vision-for-the-future-of-uk-steel-production

supplying over 100,000 tonnes a year and with Turkey providing as much as 680,000 tonnes in 2022 – 12% of imports.



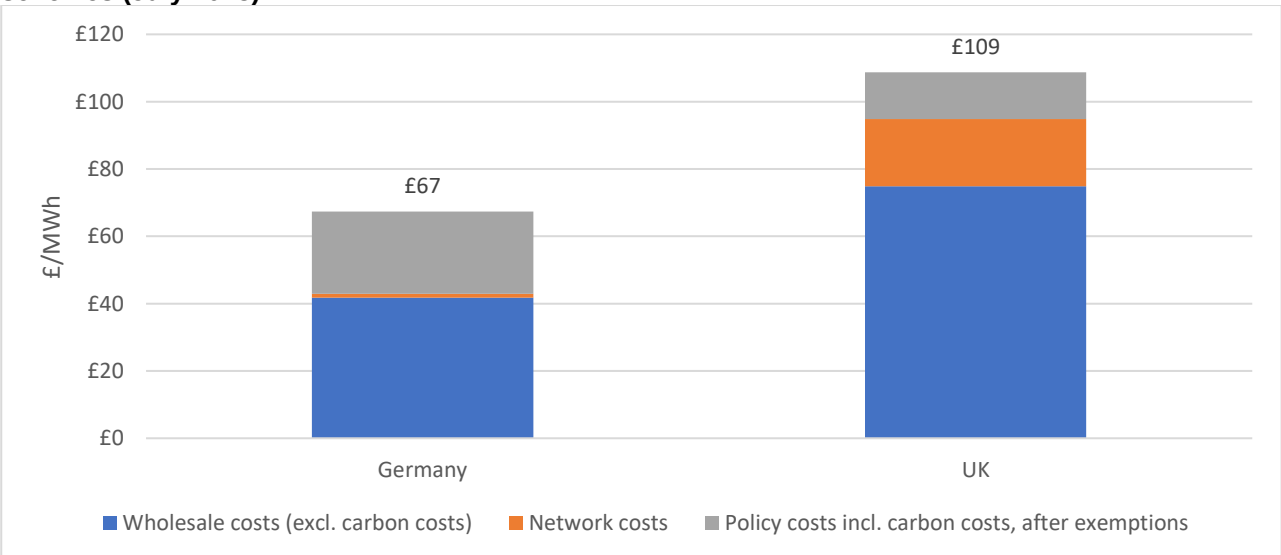
Note: Tonnes of steel. Source: International Steel Statistics Bureau.

Recouping costs brought on by network charges require either price increases, where customers may instead turn to imported products or a reduced profit margin. When building a business case for investment in clean steel production, steel producers must remain internationally competitive. UK steel producers export over 40% of their products to markets worldwide and can only continue to do so whilst they remain competitive.

Cause of electricity price disparity

The cause of the difference in industrial electricity prices in the UK and, for example, Germany is quite clear.

Figure 1: Electricity prices for steel producers in Germany and the UK after Government support schemes (July 2023)



Source: UK Steel. Notes: These prices are an estimation based on the most recent market data, and actual prices faced by companies will differ. We expect an updated price comparison to be available in the Autumn.

Policy costs were historically the biggest cause of the electricity price disparity, often twice as high in the UK as in Germany and France. As is clear in Figure 1, policy costs are now slightly lower in the UK than in Germany, primarily due to higher carbon costs in the EU ETS compared to the UK ETS and the introduction

of high indirect compensation in 2022 in the UK. When the renewable exemption will increase to 100% in April 2024, policy costs are expected to be lower in the UK than in Germany/France.

UK wholesale power prices have long been higher than in Germany and France. This is primarily due to the different power generation mixes in France and Germany, driven to a significant degree by government policy. France has a higher proportion of old nuclear power than the UK, and Germany remains heavily reliant on coal and lignite compared to the gas-dependent UK. The UK's unilaterally imposed Carbon Price Support – an additional 'top-up' carbon tax over and above the prevailing carbon price – increases the UK wholesale costs in two ways: by directly adding to the costs of producing carbon-based power and subsequently by forcing the use of the more expensive fuel gas over coal. The "merit order" determines the power price – the sequence in which power stations contribute power to the market. The market determines that the cheapest mix of power available at any given time will be used to meet demand – the very cheapest plants will be called upon first, with progressively more expensive plants added to the mix until demand is met. The last and most costly plant required to meet demand sets the wholesale price paid to all generators in a market. When subtracting carbon costs, wholesale prices are therefore almost twice as high in the UK as in Germany (£75/MWh vs £42/MWh).

Finally, a big contributor to the electricity price disparity is the difference in network charges. While total network costs across all users are similar in the UK, France, and Germany at around €33–36/MWh, industrial consumers pay a far higher rate in the UK, as French and German steelmakers are exempted from 80-90% of their network charges. Their governments have reduced network costs for industry as they recognise both the importance of this to international competitiveness and the vital role large energy users play in balancing the power networks. French and German steel sites have network prices at around £1/MWh, whereas UK producers paid around £11/MWh in the UK in 2021/22.

However, in April 2023, two network charging reforms were implemented, the Targeted Charging Review (TCR) and the Second Balancing Services Charges Task Force (BSUoS Taskforce), significantly increasing network charges for the most electro-intensive manufacturers. The TCR redistributed residual network charges, which recovers the fixed costs of providing existing pylons and cables in the Distribution Use of System (DUoS) and Transmission Network Use of System (TNUoS) charges. The BSUoS Taskforce has removed the BSUoS levy charge from generation and levied these charges on demand customers only. This has meant a dramatic increase in network charges for steelmakers. While both industry and DBT are still collecting data to understand the full ramifications of the reforms, initial data suggests that network charges are now combined up to £30/MWh, substantially higher than the £0.5-1/MWh paid in France and Germany. When these reforms were being consulted upon by Ofgem and Charging Future Forum, the steel industry issued strong warnings against the proposals, as it was clear it would greatly raise EII network costs. This was highlighted in our consultation responses, our electricity price reports[2,3], in communications and letters to ministers, directly to Ofgem officials and senior leadership, MPs, and other stakeholders. It was, therefore, disappointing that Ofgem proceeded with its reforms, underlining the absolute necessity of the NCC scheme to undo these damaging reforms and provide competitive electricity prices.

As evidenced in the consultation document, other countries provide exemptions of 80-90% for network charges to EIIs. If a 90% compensation is applied to network charges faced by steelmakers today, they will network charges between £2.5-3.5/MWh, significantly less than now and lower than before the TCR and BSUoS Taskforce were implemented. However, compared to network charges in Germany and France of around £1/MWh and £0.5/MWh, respectively, UK network charges will still be higher. It is, therefore, imperative that the UK Government implements a similar level of compensation as in Germany and France. Compensation less than 90% for the most electro-intensive EIIs would, at best, only undo the TCR and BSUoS reforms but still leave UK EII significantly worse off, failing to deliver truly competitive electricity prices.

We therefore strongly support the introduction of compensation of 90% for all network charging costs by April 2024.

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[2] UK Steel (Feb 2021), Closing the Gap: How Competitive Electricity Prices Can Build A Sustainable Low-Carbon Steel Sector

[3] UK Steel (Nov 2021), A Barrier To Decarbonisation: Industrial Electricity Prices Faced By UK Steelmakers

2. Are there other network charging costs hereby not included within TNUoS, DUoS and BSUoS that should be included within the scope of the Network Charging Compensation Scheme? If so, please provide evidence.
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3. Do you agree with the proposal to not compensate any network charging costs associated with use of the gas network? If not, please provide evidence.
Yes.

4. Do you agree with the proposal to not compensate any costs associated with use of a private wire network (excluding those costs that can be evidenced as passed through network charging costs)? If not, please provide evidence.
No, we believe that the NCC scheme should compensate EIIs for their grid-related network costs, irrespective of whether it is private wire or grid-connected. Excluding private wire would limit the opportunities for EIIs to consider commercial arrangements which involve private wire and leave them wholly dependent on the grid.

5. Do you agree with the proposal to not compensate any costs associated with new connections to the electricity network? If not, please provide evidence.
As outlined above, the steel sector's decarbonisation pathway will lead to significantly higher electricity use – more than double to triple the sector's current power consumption if replaced with like-for-like. All decarbonisation technologies are more electro-intensive than current production methods. Steel companies will likely, therefore, need additional grid capacity and new grid connections for their new steel production equipment. While the cost of installing new connections should not be covered, the use of new connections should be compensated.

6. Do you agree with the proposal to compensate EIIs on a quarterly basis, in arrears, for their network charging costs? If not, what alternatives could UK Government consider?
We agree that the most appropriate frequency of compensation is quarterly. It allows regular compensation without burdensome administration while also allowing the Government to calculate the levy better to raise funds for the compensation.

7. Do you agree with the rationale and scope for the proposed levy? If not, please provide evidence.
Yes, we agree.

8. Do you agree with the rationale of calculating individual supplier's levy obligations on a volumetric basis? If not, please provide evidence
Yes.

9. How long will electricity suppliers need to incorporate a new levy into their customer billing systems?
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10. The intention is to collect the levy on a rolling quarterly basis. Can energy suppliers accommodate this? If not, what alternatives could suppliers accommodate?
Yes.

11. How long a billing cycle (between notification of quarterly levy obligation and payment) do suppliers require?
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12. Do you agree with our proposal that electricity suppliers should provide quarterly electricity supply data to the scheme administrator to inform quarterly levy obligation calculations?
Yes. This would align with a quarterly compensation schedule.

13. A volumetric calculation of a supplier's levy obligation assumes that suppliers will pass the costs down to their customers on a volumetric basis. Is this assumption correct?
Yes. This matches the approach with the FiT, RO, and CfD levies.

14. How will suppliers recover the new levy? Will it be through the standing charge or as a standalone levy on bills?
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15. Do you agree with the proposal that at the end of each quarterly billing cycle, the full quarterly levy obligation will fall due? If not, what alternatives are proposed?
Yes.

16. Which mechanism would best protect against the risk of default whilst minimising the cost burden on suppliers (and their customers)?
We would point to either 'raising a Reserve Fund through a marginal uplift in the levy' or 'requiring suppliers to lodge credit cover in the form of cash or letters of credit'. This would avoid the issue of punishing other suppliers and consumers if a supplier defaults on its obligations.

17. Do you agree with the £0.87 per customer cost estimate for suppliers to pass through the cost of the EII Support Levy? If not, is there more or different evidence you could share?
No. We believe this is a significant overestimation of the cost of implementing the NCC levy. Where the default price cap impacts the overall charging methodology for all domestic consumers, it is highly unlikely that implementing a simple levy would cost £0.87 per customer cost, which would be a quarter of the yearly household bill increase of the entire Supercharger package.

18. Do you agree with our approach for estimating familiarisation and administration costs to eligible EIIs? Are there other costs that we have not included in our assessment?
We believe the initial administrative costs will be higher than estimated, as many EIIs will not have all the network charge data available, or their suppliers may not provide an itemised bill. The estimated administrative cost may be closer to the incurred costs a few years after implementation.

For further information, contact:
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