

## UK STEEL – SUBMISSION TO BUSINESS AND TRADE COMMITTEE’S INQUIRY ON INDUSTRIAL POLICY

### About UK Steel

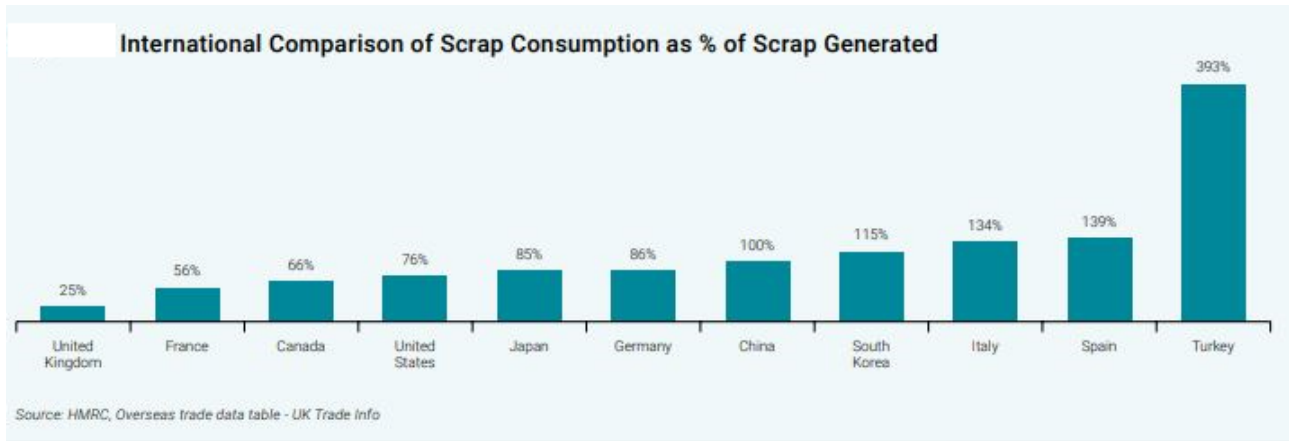
UK Steel, a division of Make UK, is the trade association for the UK steel industry. It represents all the country’s steelmakers and a large number of downstream steel processors.

### Submission to the inquiry on Industrial Policy

#### 1. UK’s strengths and competitive advantages

- a) Steel is a foundation industry, the building block of our society, feeding into everything from construction to transport, critical national infrastructure, defence, energy pipelines, wind turbines, household goods, food packaging, and medical, industrial, and agricultural equipment. Steel is the bedrock of the UK’s supply chains and is fundamental to the future of the UK economy, our economic resilience and national security. The industry supports thousands of jobs and communities both directly and indirectly along the supply chain, particularly in Wales and the North East of England.
- b) Steelmaking does not only underpin growth, economic resilience, and decarbonisation, but in the UK, we are also in a prime position to capitalise on the critical resources necessary to lead the way in green steel production: scrap, renewable energy, and innovation excellence.
- c) The UK is blessed with an abundance of steel scrap, producing around 10-11Mt each year, meaning that scrap-based steelmaking should be an obvious choice for the UK. However, 80% of this steel scrap is currently exported. Indeed, the UK is one of the largest exporters of scrap in the world, only surpassed by the EU and the US. Most of our scrap is destined for Turkey (nearly 2.5Mt), followed by Pakistan, Egypt, Spain, India, and Bangladesh, all receiving over half a million tonnes of scrap. Much of the UK’s scrap ends up being exported to countries with lower environmental, health and safety standards to be sorted and recycled into new steel products that may then be shipped back, adding to the carbon footprint. Not only is the UK obligated to deal with its waste responsibly, but this represents a clearly missed opportunity where we are not making the most of this valuable raw material. Since the UK has access to such a strategic resource, there is an obvious business rationale for growing scrap-based steelmaking in the UK, giving us an advantage in spearheading a low-carbon circular economy. With some strategic planning, domestic scrap retention and quality could be improved, catalysing further electrification of steelmaking in the UK while also resulting in greater control and resilience of the supply chain.

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- d) In addition to the high availability of scrap, the UK is also well-positioned in renewable energy, giving it an even greater advantage for low-emission steelmaking. The UK steel industry will transition to 100% electric arc furnaces, which are significantly more electro-intensive. The UK boasts an electricity mix that is over 40% from renewable sources and is a world leader in offshore and floating wind power. Green electricity can also enable low-emission steelmaking through the use of green hydrogen. The UK has the opportunity to use its position in renewables and combine it with its research and innovation expertise to pioneer new technologies for CCUS and hydrogen steelmaking, which are still in the early stages of commercial deployment. Already, UK steelmakers support over £214m in active UKRI research programs, tangibly demonstrating their strong and ongoing commitment to R&D. A more ambitious and targeted programme of funding would drive results at the pace that is required and ensure that technologies are commercially available for the Net Zero transition.
- e) Finally, as detailed below, steel is also central to any ambition to decarbonise the UK economy – meaningful decarbonisation, not through deindustrialisation and offshoring emissions, but by actually taking responsibility for the emissions of our steel consumption. With its infinite recyclability, steel is an essential component of a circular economy, generating thousands of green jobs and powering the decarbonisation of other sectors too. It is used in every single technology that a green economy relies on, from wind turbines and solar panels to electric vehicles and hydrogen infrastructure.
- f) The UK is in a prime position to lead the world on Net Zero steel and grow the green economy by tapping into its strengths and resources. Not only is the UK already leading the way on renewable energy and boasting world-class research and innovation, but it also has abundant access to a critical resource, steel scrap, as mentioned above, which has a central role to play in the steel sector’s decarbonisation journey. In addition to the obvious widespread economic and environmental benefits of steelmaking in the UK, access to a key raw material further enhances the business case for UK steel production as we transition to increasingly electric scrap-based processes.

## 2. Net Zero

- a) Steel is central to meeting the UK’s decarbonisation objectives, from reducing the emissions of the material itself to its use in energy infrastructure and technologies that will enable a Net Zero economy. A meaningful decarbonisation strategy must focus on consumption emissions, not just domestic steel production emissions. UK steel production accounts for just 20% of the total 29 million tCO<sub>2</sub> associated with the UK’s annual steel consumption. The UK must take responsibility for these emissions rather than meet decarbonisation objectives by offshoring industry.

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- b) Increased reliance on steel imports could lead to higher emissions if imported steel is produced in a more carbon-intensive steel plant. Global carbon intensity varies from 0.29-3.38 tonnes of CO<sub>2</sub> per tonne of crude steel, depending on plant efficiency and production method, with the weighted average being 1.85tCO<sub>2</sub>/tCS in 2018. UK steel production sites are less carbon-intensive than the global average for both blast furnace and electric arc furnace steelmaking, and therefore import increases will likely lead to a rise in UK greenhouse gas emissions. Higher imports of finished steel products also increase transport-related emissions – for example, shipping a tonne of product from China results in an estimated 0.3 tonnes of CO<sub>2</sub><sup>1</sup>.
- c) With Tata Steel's agreement with Government to switch to low-emission electric arc furnace production and British Steel's plan to do the same, it is clear that the UK steel sector is completely committed to rapid decarbonisation. These announcements came just one year after UK Steel published the industry's Net Zero roadmap, and the UK's major steel producers are now taking crucial steps to decarbonise by 2035. The UK steel industry could be the first globally to achieve this at a sector level, but this requires several parameters to be in place to enable a competitive business landscape, some of which Government is addressing. These include competitive industrial electricity prices, a carbon border adjustment mechanism by 2026, improved scrap utilisation and quality, technology development, green public procurement, and robust trade defence. With a well-designed and executed strategy, there is a real opportunity to lead the world in green steelmaking and build the foundations of a truly circular economy where the materials from each building, each car, and each wind turbine are recovered at the end of their life cycle and turned into a new product. Green steel will be vital to reducing the embedded carbon in buildings and infrastructure, cars, ships, planes, appliances, and a wide range of equipment.
- d) The role of steel in a low-carbon economy goes beyond being an infinitely recyclable Net Zero material. Steel is also critical to all low-emission energy sources and technology required for a Net Zero future. Steel is essential for all sources of renewable energy. Around 80% of a wind turbine is made of steel, from the foundation to the tower, gears, and casings<sup>2</sup>. Steel is used as a base for solar panels and in heat pumps, tanks, and heat exchangers. It is also used to reinforce concrete dams for hydroelectric power, is the main component of a tidal turbine in tidal energy systems, and is used to fabricate wave energy devices. Steel is essential for hydrogen infrastructure, nuclear small modular reactors, and the production and distribution of electricity. This includes power plants, generators, transformers, power distribution pylons and cables. Steel also plays a crucial role in green modes of transport, such as electric vehicles and rail. As illustrated by the 2021 McKinsey analysis, steel will be a vital material for all technological transitions within the energy sector, as demonstrated by the chart below<sup>3</sup>.

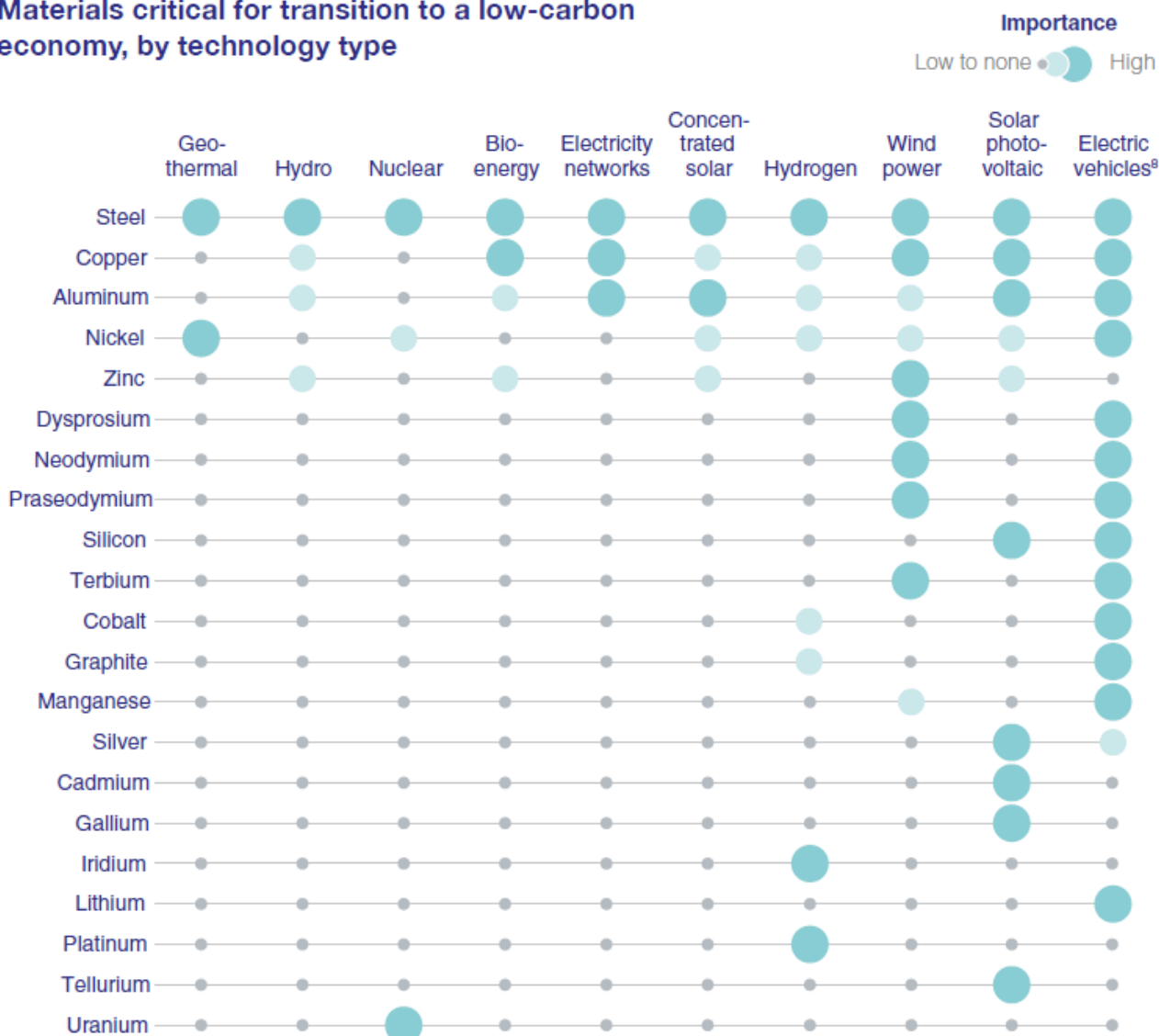
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<sup>1</sup> Defra conversion factor for large container vessel of 0.01267 kgCO<sub>2</sub>e/tonne product/km shipped. Shipping distance from Shanghai to Dover of 22,000 km. Estimated CO<sub>2</sub>e emissions of 278 kg per tonne.

<sup>2</sup> Breathing new life into wind turbines - worldsteel.org

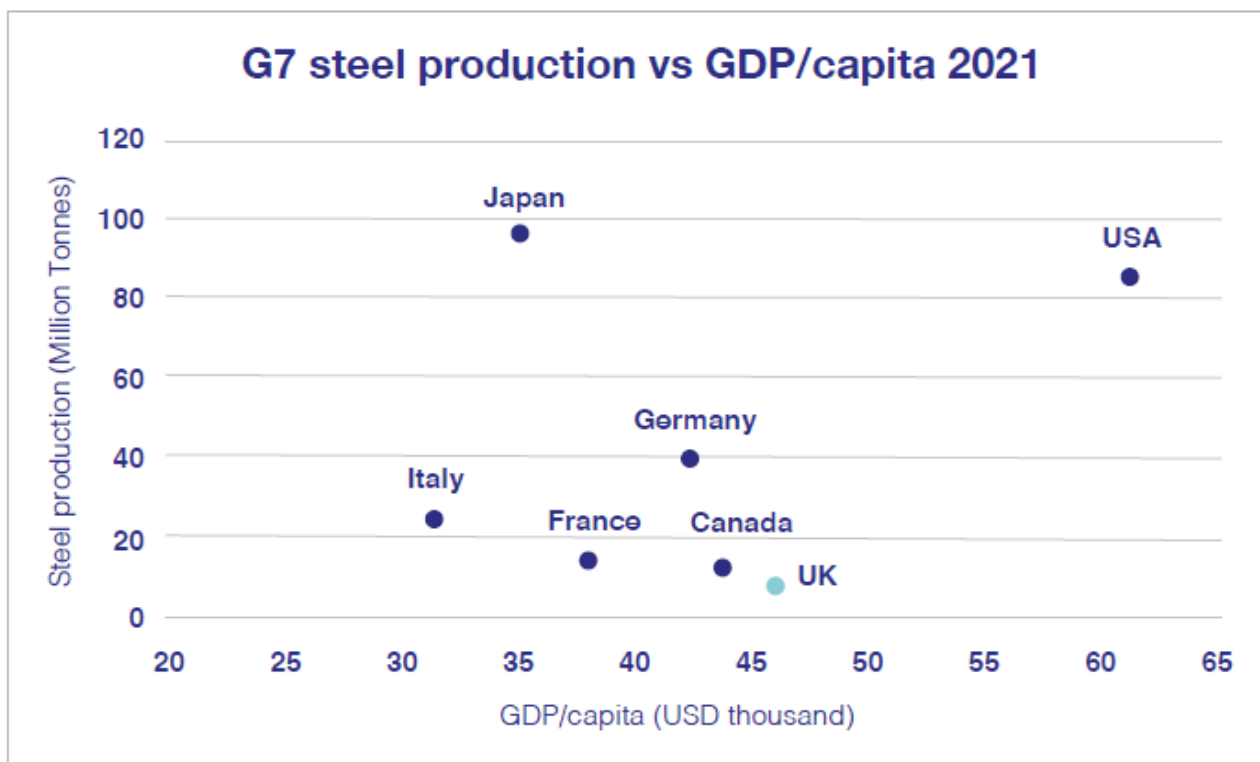
<sup>3</sup> Critical raw materials for strategic technologies and sectors in the EU, A foresight study, European Commission, 9<sup>th</sup> March 2020; The role of critical minerals in clean energy transitions, IEA, May 2021; McKinsey analysis

Materials critical for transition to a low-carbon economy, by technology type



3. Economic security

- a) The link between economic growth and manufacturing output is well established, and steel sits at the foundation of a large proportion of manufacturing activity. Nearly every economy in the G20 boasts a strong steel sector, which is a testament to the important role it plays as the bedrock of a strong economy. Governments worldwide recognise the strategic importance of their steel industries in driving economic growth, productivity and resilience and take the necessary actions to support their domestic sectors when needed. The UK is an outlier in terms of its steel production relative to the size of its economy and relative to the size of its manufacturing base, which creates significant risks for its economic resilience.

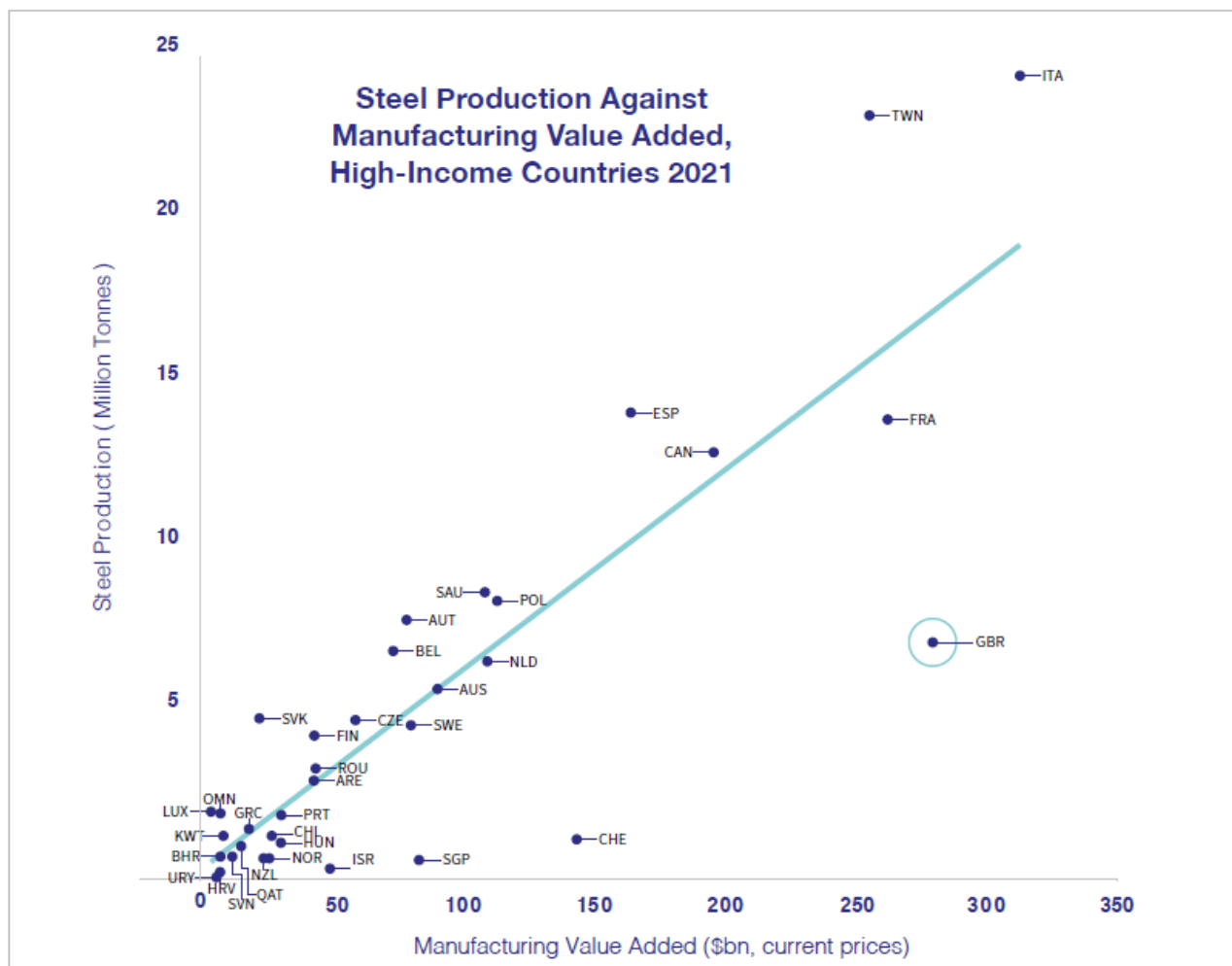


- b) Steel is a highly internationally traded product – 39% of all steel produced globally crosses borders when excluding China – and the competitive landscape is often challenged by a variety of subsidies, tariffs, trade defence measures, energy costs, and environmental regulations. The much sought-after level playing field is, therefore, often a moving target and steel industries in countries where government plays a less active role in industrial policy are often at a disadvantage. In many countries, however, governments recognise that they need to actively provide the right business environment for their steel industries and see this as a sound investment in order to strengthen their economies.
- c) Particularly as the world becomes increasingly fragmented, it is more than ever vitally important to have strong domestic foundation industries and access to critical materials. From rare earths and semiconductors to battery gigafactories and energy, there is an increasing realisation that supply chains are exposed and have become overly dependent on few sources. While some of these newer industries have more hype around them today, they still depend on and are highly interlinked to the more traditional foundation industries such as steel. Traditional does not mean outdated – steel and wider manufacturing drive considerable technological advances and innovation, supporting skills and economic growth.
- d) The UK remains the ninth largest manufacturing nation in the world, with an annual output of £183 billion<sup>4</sup>. And yet it is only the 24th largest steel-producing country, dropping in its ranking from 18th over the last decade. The UK is an outlier in terms of its steel production relative to the size of its economy and relative to the size of its manufacturing base, which creates significant risks for its economic resilience. France, which is comparable to the UK in terms of GDP, population, and size of manufacturing sector, produces around double the amount of steel. The UK's steel production has contracted at one of the fastest rates in the world over the last 50 years, second only to Venezuela. If the steel industry in the UK were

<sup>4</sup> 1UK Manufacturing, The Facts 2022 | Make UK.

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to continue to contract, the UK would be unique in being by far the largest economy and steel consumer to be almost completely reliant on imports<sup>5</sup>.



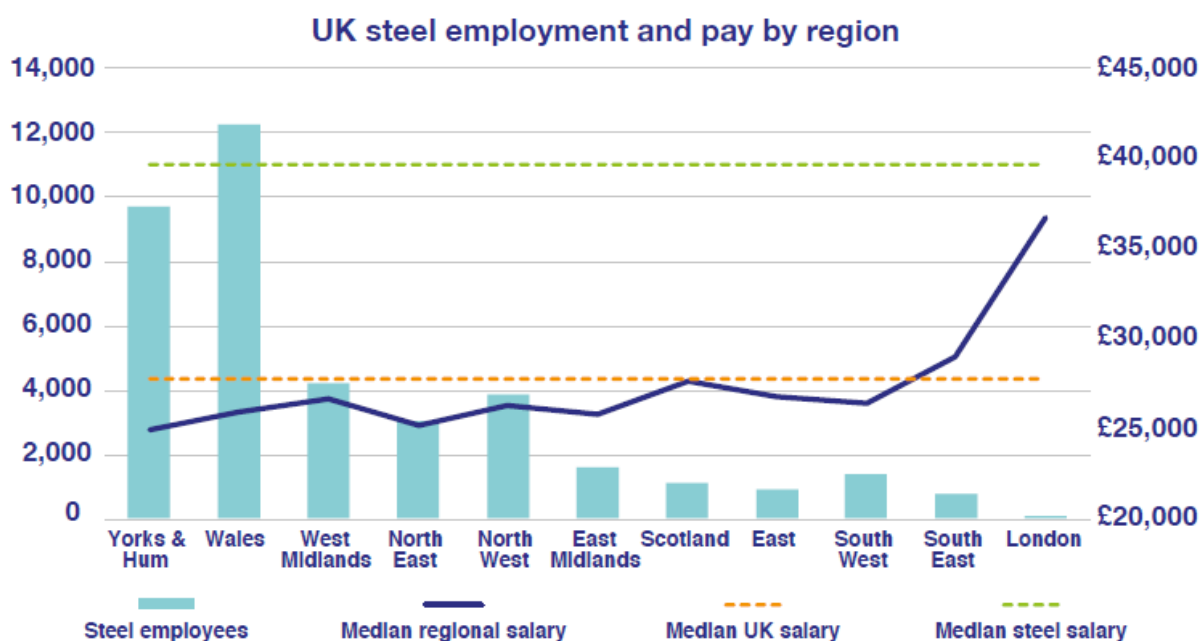
- e) Supply chains have been put to the test in recent years with the Covid-19 pandemic and the war in Ukraine. For steel, the impact on downstream sectors was moderated by the fact that the UK still has at least one producer of each major steel product category – disruption would have been far more severe had there been a complete dependence on imports. The experience of delays, shortages, and price increases prompted manufacturers to look for suppliers closer to home to reduce the risk to their operations. The trend is likely to remain given geopolitical developments – Russia is already cut off by the West, while relations with China have come under tension in recent years. Increasing barriers to international trade, whether through trade defence measures, carbon border adjustment mechanisms, or other carbon-based arrangements, are likely to further fragment markets. The world is, therefore, moving towards a new paradigm where resilience to shocks and sustainability are prized over lowest cost. Increased self-sufficiency for certain core goods, such as energy and basic materials, is at the heart of this.
- f) Without a homegrown steel industry, the UK’s construction, automotive, engineering and defence industries would be at the whim of global events. Instead, our domestic steel industry plays a crucial role not only in shielding our supply chains but also in generating

<sup>5</sup> At the Cruc: UK Steel Risk in the Energy Transition | Royal United Services Institute (rusi.org)

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considerable value for the UK economy, supporting thousands of well-paid, highly skilled jobs, and helping rebalance the economy towards regions outside of London and the South East. The UK steel industry makes a £2.9 billion direct contribution to UK GVA and supports a further £3.8 billion in its supply chains<sup>6</sup>. It further contributes £2.4 billion to the UK's balance of trade<sup>7</sup>. This economic contribution is further multiplied when considering the steel sector's role in driving innovation and skills, enhancing efficiency and productivity. Proportionally, more businesses in the foundation industries are engaged in innovation activities than the UK average, providing more training days to each employee and spending more on R&D as a proportion of their investment than the UK average<sup>8</sup>.

- g) Steel jobs are concentrated in Wales, Yorkshire, and Humberside, paying wages 56% higher than the regional median and 43% higher than the UK national median. This is hugely significant not only for the 40,000 people directly employed by the sector but also some 50,000 jobs in supply chains, from fabricators to stockists, input suppliers, processors, and logistics. Steel sits at the base of numerous industries, from construction to automotive, energy, aerospace, and a wide range of engineering applications, where economic contribution and resilience are interlinked. Steel is an incredibly versatile, cost-effective material, and as the sector decarbonises, there is an excellent opportunity to transform carbon-intensive jobs into low-carbon jobs, supporting a green and just transition.



#### 4. Key recommendations:

- a) To enable the steel industry to grow while decarbonising and achieve strategic benefits to the broader UK economy, this Government must enact several new policies:
  - i. Partnership of Government and industry to achieve Net Zero steelmaking: Decarbonisation is necessary for the steel sector's viability, and governments worldwide are partnering with industry to achieve this. Shared investment such as that between Tata Steel and the

<sup>6</sup> ONS GDP Output – low level aggregates 2022 and type 1 multiplier

<sup>7</sup> International Steel Statistic Bureau – UK steel exports net of import of raw materials/inputs.

<sup>8</sup> PwC, 'Understanding the economic contribution of the Foundation Industries,' January 2014, page 3.

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Government must be made available for all steelmakers as part of a broader industrial strategy.

- ii. Truly competitive industrial electricity prices: As the steel industry further electrifies, competitive electricity prices become even more important. The British Industrial Supercharger will likely reduce electricity prices by around £29/MWh, based on UK Steel analysis<sup>9</sup>. However, the UK steel industry will still face higher electricity prices than our main European competitors, paying an estimated £24/MWh more or roughly 40%. This requires further reforms to the wholesale electricity market, such as introducing a Green Power Pool, and matching network compensation provided in France and Germany.
- iii. Improved scrap utilisation and quality: The UK should incentivise domestic processing of scrap steel by incentivising retention to meet domestic demand by reducing price support offered to scrap exports. Similarly, higher grades of scrap are required and can be achieved by incentivising and support greater processing of scrap to improve quality through R&D funding, removal of VAT on high quality scrap, and inclusion of scrap and the minerals it contains in the Critical Minerals Strategy.
- iv. Energy efficiency and R&D investment: The funding currently available to the steel sector for energy efficiency and R&D is limited and spread very thinly across several sectors. The Industrial Energy Transformation Fund is not ambitious enough, the long-promised “Clean Steel Fund” never materialised, and the European Research Fund for Coal and Steel ceased to be available but was never replaced. This is a key funding gap, and a “Clean Steel Innovation Fund” is urgently needed.
- v. UK CBAM by 2026: With over 90% of global steel production facing no carbon cost, it is only right that a new Carbon Border Adjustment Mechanism (CBAM) is implemented to create a level playing field on carbon pricing. However, implementing the UK scheme one year after the EU CBAM starts is hugely concerning, as UK Steel estimates that 23Mt of steel currently imported into the EU would be at risk of diversion to open markets, like the UK, when the EU’s CBAM is put in place.
- vi. Safeguards extended to 2026: Steel safeguards currently in place in the UK and the EU allow for tariff-free imports within quotas set based on historical trade flows. Once the quotas are exhausted, a 25% tariff applies. These were introduced in response to Section 232 tariffs in the US and growing steel overcapacity, resulting in distortions to international trade and a high risk of trade diversion to any open market that left itself exposed. While safeguards are due to expire in June 2024, they should be extended to June 2026.
- vii. Public procurement: Public projects account for over 10% of steel demand in the UK each year, meaning that the Government has a hugely powerful tool at its disposal to bolster UK industry and supply chains while at the same time maximising the social, economic, and environmental benefits of public expenditure. While the revised Public Procurement Note has helped, cultural change is needed in the way public bodies make procurement decisions and how this filters through the supply chain.

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<sup>9</sup> UK Steel (2023), Industrial Competitiveness: Electricity prices faced by UK steelmakers, November 2023, <https://www.uksteel.org/electricity2023>