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COUNTRY PROFILE – UNITED KINGDOM[1]

2023 STEEL POLICY SCORECARD

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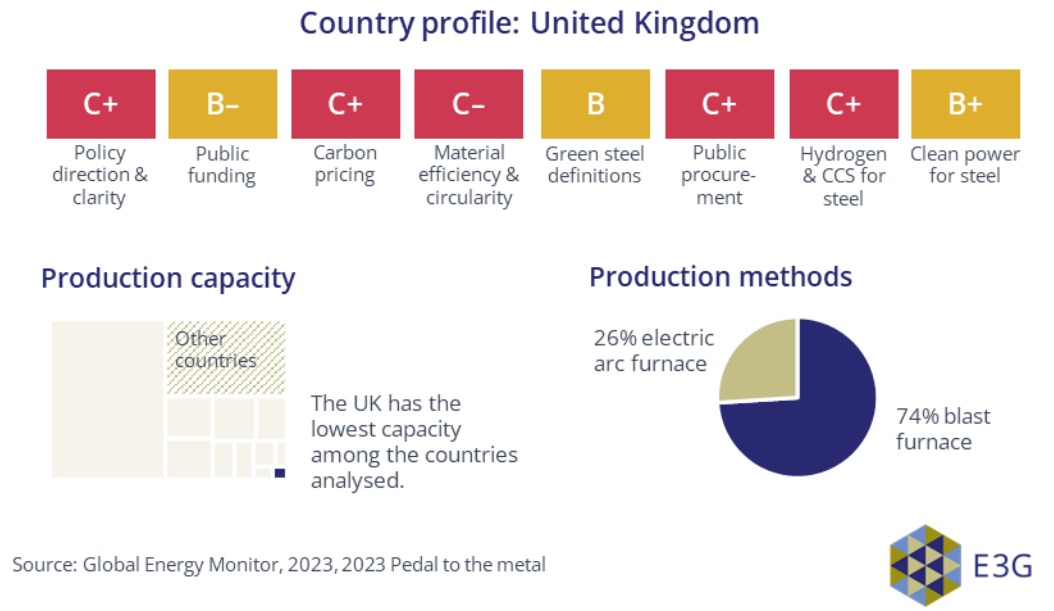
Moving towards green steel but without a clear strategy

Once the steelmaking capital of the world, in recent years the UK has struggled to put forward a comprehensive strategy for the decarbonisation of its remaining primary steel sites. However, there was substantial progress in 2023 on an agreement for financial support from the government to transition Tata Steel's blast furnace site to electric arc furnace steelmaking. There have also been several consultations on demand-side policies and carbon leakage mitigation, moving the UK towards a clean steel future. However, the UK government has drawn criticism for its piecemeal approach, lack of proactive inclusion of unions, and the absence of a broader industrial policy outlining whether the UK will retain primary steel capacity, or how it will sustain a completely electrified sector.

[1] This document supplements the main **2023 Steel Policy Scorecard report: Raising ambition on steel decarbonisation**.



The UK is not far behind its European counterparts in our Steel Scorecard. There have been some positive policy steps since our 2022 Scorecard, including a commitment to implementing a Carbon Border Adjustment Mechanism (CBAM), a tightening of emissions allowances in the UK Emissions Trading Scheme (ETS), and consultations on mandatory product standards, green public procurement pledges, and the adoption of low-emission thresholds for steel. There has also been a small expansion of the Industrial Energy Transformation Fund and partial alleviation of high electricity prices via the British Industry Supercharger. Together with progress on deals to transition its remaining blast furnace sites, the UK is on firmer footing for a decarbonised steel sector. However, the UK government has not outlined how the sector will access the levels of scrap steel and green iron needed for this scale of EAF steelmaking, and has made little progress on the electricity network expansion needed to deliver mass low-carbon power to EAFs. There is also slow progress on demand-side mechanisms, and a lack of clarity on the commercial viability of a steel sector with no primary steelmaking capacity and what that means for other sectors' supply chains.

Priority recommendations for UK steel policy:

> Establish a long-term Industrial Strategy that includes a vision for the future role of the steel sector in the UK economy and how it will be integrated in other UK manufacturing sectors. This should guide how the UK decarbonises steel, with explicit aims on the retention of primary steelmaking. It will also need to include plans for reducing high industrial electricity prices, increasing

the retention and recovery of scrap steel, and establishing a secure supply of hydrogen and/or green iron.

> Adopt a target for near-zero emissions steelmaking by 2035 – which has been endorsed by both the Climate Change Committee and UK Steel – and assess whether this could in fact be brought forward following the recent agreement with Tata Steel and negotiations with British Steel.

> Take immediate action to reduce planning delays for new renewable energy generation and grid infrastructure projects, and work with the energy regulator and industry to support new connections queue management rules to speed up the time it takes for generators and off-takers – such as electric arc furnace steelmakers – to connect to the grid.

Last-minute funding pushes to green the UK's primary steel sites

The UK was one of the first large-scale global steel producers; today it ranks twenty-fourth and is the smallest steel producer among G7 countries. It currently relies heavily on coal-based production, centered at two large sites: Tata Steel in Port Talbot and British Steel in Scunthorpe. Having seen key manufacturing sites disappear in a wave of chaotic closures in the 1980s, these remaining plants hold strong symbolic value, especially among their workers and local communities.

After a drawn-out, closed-doors process, official public funding (£500m) for transitioning Tata Steel's Port Talbot site was announced in September 2023. This was soon followed by an announcement in November 2023 from British Steel that they intend to transition their Scunthorpe coal-based facilities to EAF production at two different sites, pending government support.

These announcements indicate a significant shift in the UK's steelmaking capacity away from coal-based blast furnaces towards secondary, scrap-EAF steel production. Closure of all four of the UK's last operational blast furnaces, which contribute 15% of all UK industrial emissions,[2] would represent a substantial emissions reduction for the UK. Indeed, the transition of Tata Steel's Port Talbot site alone could reduce the UK's overall territorial emissions by 1%.

While not formally set out by the UK government, these announcements suggest the UK is firmly banking on steel recycling and green iron imports as its future steel production pathway. This would make the UK the only country in the G20 without primary steel capacity, and stands in stark contrast to other countries –

[2] Green Alliance, Dec. 2021, **Making the UK a World Leader in the Production of Clean Steel**

such as Germany, who intend to retain significant primary production capacity with H_2 or CCUS. The approach has also been criticised on the grounds that retention of some primary production, while more costly and energy-intensive, could result in the retention of more jobs and the ability to produce a wider suite of goods. It is estimated that the closure of Tata's coal-based assets in Port Talbot will lead to 2,800 job losses.

The government's focus on secondary production alone has also come without a strategy for achieving the necessary step-change improvement in collection, separation, and treatment of scrap steel, nor manufacturing and design changes to improve the quality and quantity of scrap steel available within the UK. There have also been no announcements on how the UK will retain the scrap steel that is recovered domestically but exported to other secondary steelmaking countries. Without adequate supplies of scrap, a 100% EAF-based sector will rely on imports of iron, which are currently available at a domestic level.

Moreover, long-term action to reduce industrial electricity prices has not been outlined. UK industrial electricity prices are far higher than those in key competitor nations – such as France, Germany, and Spain – which has led to existing EAFs in the UK reducing their output to well below maximum production capacity. Without action it is highly likely that new EAF sites will face fierce international competitiveness pressure on an electricity price basis.

The impact of a steel decarbonisation pathway based solely on secondary production

The Scunthorpe and Port Talbot announcements suggest that hydrogen and CCUS will not play a role in decarbonising steel in the UK, with current plans leaving no domestic primary steelmaking and therefore no need for hydrogen to reduce iron ore, or CCUS to capture emissions from blast furnaces.

Switching to scrap-EAF only will result in the closure of coking ovens and iron production, which, as above, has drawn criticism for potential job losses and increased dependency on global supply chains.

As the global steel sector decarbonises, demand for finite supplies of scrap steel will also become increasingly competitive, so the UK will be particularly exposed to fluctuations in international supply and demand. While increased retention of domestic supplies of scrap will be good for EAFs in the UK, it will diminish the scrap available for use in other countries, which could slow steel decarbonisation

in other geographies. This said, the UK's increasingly low-carbon grid makes it an ideal place to produce steel in an EAF.

In the immediate transition to EAF-only steelmaking, the number of steel products the UK can produce domestically will be curtailed. For example, EAFs cannot produce steel of the required quality to make automotive parts. This limits the capabilities of the sector and increases the dependence of other manufacturing sectors on international supply chains. There is a risk that without the ability to produce a diverse suite of products, some steel companies may suffer from negative commercial outcomes from weaker business models, irregular cash flow, and unanticipated changes in global procurement trends.

Elsewhere in the economy, the move away from H_2- and/or CCUS-enabled low-carbon steelmaking may influence the expansion of H_2 and CCUS use. For example, in its 2021 Hydrogen Strategy, the UK government set a very ambitious target for 10 GW of domestic production capacity of low-emission H_2 by 2030, demand for which was forecast to come in part from the use of hydrogen in steelmaking from the mid-2030s.[3] With this now looking increasingly unlikely, investor confidence could take a hit, with prospective H_2 generators concerned about overall demand in the mid-2030s – though demand from elsewhere should be more than sufficient for a thriving H_2 economy.

Similarly, the UK government's updated 2023 CCUS roadmap includes plans for a CCUS cluster close to Scunthorpe,[4] which includes several businesses and economic sectors. However, with British Steel's Scunthorpe facility now looking to electrify, it seems unlikely that CCUS will be required at that site, leaving other sectors in the cluster unsure of their future access to CCUS pipelines and storage.

Increased demand for power from industry in the face of grid bottlenecks

On top of its commitment to decarbonising the electricity system by 2035, the UK government has highlighted the importance of working with energy regulators and industrial clusters to ensure the electricity networks can accommodate increased demand from industrial sites. However, there are currently severe delays to new renewable energy developments and the grid infrastructure needed to connect them to industrial off-takers.

[3] Department for Energy Security and Net Zero, 2021, **UK Hydrogen Strategy** (accessed 30/11/2023)

[4] Department for Energy Security and Net Zero, 2023, **Carbon capture, usage and storage net zero investment roadmap** (accessed 30/11/2023)

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At present, new renewables face wait times of up to 14 years before they can begin delivering clean electricity to users. This is due to a combination of inefficient queue management rules delaying grid connections; bureaucratic, overlapping, and under-resourced planning regimes; and a lack of anticipatory investment in the energy system to ensure that infrastructure is already in place for new renewables. This delays the delivery of clean electricity to users across the economy. For industry, this is worsened by delays to their own grid connections, which threatens the viability of electro-intensive EAFs.

While there has been some movement from the UK government on speeding up Nationally Significant Infrastructure Projects (NSIPs) and reducing planning delays, and from Ofgem and National Grid on introducing new connections queue management rules, significant progress on grid constraints is yet to materialise.

In addition, industry itself still suffers from high electricity prices in comparison to key competitors, damaging the commercial viability of electrification. Corporate PPAs, which offer long-term predictable electricity prices, have gained in significance during years of limited availability of public subsidies for renewables, however many industrial off-takers have struggled to access them due to their own financial uncertainty. To-date, there has been no action from government to increase the steel sector's access to PPAs. Similarly, proposals for a "Green Power Pool" of low-cost clean electricity, sold in priority to industry, have been ruled out due to their potential impact on electricity markets. The British Industry Supercharger has exempted industry from some network charges, but the steel sector still suffers from its exposure to high wholesale costs. Some stakeholders in the sector have also argued there is insufficient action to ensure that the industry is able to maximise potential gains from DSR and capacity market involvement, though this is currently unclear.

Backsliding on 2035 policy ambition and mixed progress in the UK ETS

The UK had shown promising signs on policy clarity and target setting with its 2021 Industrial Decarbonisation Strategy, which promised to consider setting a 2035 decarbonisation target for the steel sector.[5] However, this strategy failed to provide a comprehensive vision for the long-term, sustainable decarbonisation of steel in a way that ensured carbon leakage and deindustrialisation will be

[5] Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy, 2021, **Industrial decarbonisation strategy**

avoided, with a more comprehensive industrial strategy needed. A 2035 decarbonisation target for steel also waits to be seen.

Meanwhile post-Brexit, the UK ETS has replaced the UK's participation in the EU ETS, with developments in the UK ETS mixed. Emissions allowances are trading at considerably lower prices than in the EU ETS, weakening the incentive to decarbonise. Without linkage of the UK and EU schemes, this divergence is likely to continue. In addition, the steel sector still receives free allowances with no clear phase-out date. However, in 2024, the UK ETS Authority introduced a significantly lower cap on emissions allowances, which tightens the limit on emissions from industry and will likely increase carbon prices throughout the year. Moreover, the EU–UK Trade and Cooperation Agreement has signalled readiness to forge cooperation on linking emissions trading systems, which would increase the effectiveness of both systems.

The UK has also announced that it will introduce a Carbon Border Adjustment Mechanism in 2027, following consultation on the policy in 2023. Similar to the EU CBAM, this would cover the steel sector and will have implications for trade-partner and international engagement on industrial decarbonisation. However, the UK's CBAM would come into effect a year later than the EU equivalent, which risks the UK becoming a dumping ground for high carbon steel destined for the EU.

Consulting on green steel definitions and public procurement pledges

The UK government has made promising progress on green steel definitions and standards. It held a consultation on the adoption of an IEA-developed approach to green steel definitions in its 2023 public consultation on a UK CBAM. This happened in combination with consulting on the adoption of IDDI green steel public procurement pledges, and the phased introduction of mandatory product standards on embodied emissions, indicating that the UK sees a CBAM and product standards as going hand in hand. However, there has been no concrete progress on green public procurement criteria.

Strong international leadership on steel despite domestic setbacks

Despite its stop-start approach on domestic industry decarbonisation, the UK government has shown notable leadership internationally. In 2021, the UK used its G7 and COP26 Presidencies to move industrial decarbonisation up the international policy agenda, initiating the Industrial Decarbonisation Agenda (IDA) at the G7, and Steel Breakthrough Agenda at COP26. It has also played a key role in initiating and supporting the UN's IDDI as Co-Chair, seeking to

increase the number of countries pledging to low-carbon steel and cement policies. The UK is also a member of the Climate Club, an international partnership aiming to help developing nations decarbonise industry.

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About E3G

E3G is an independent climate change think tank with a global outlook. We work on the frontier of the climate landscape, tackling the barriers and advancing the solutions to a safe climate. Our goal is to translate climate politics, economics and policies into action.

E3G builds broad-based coalitions to deliver a safe climate, working closely with like-minded partners in government, politics, civil society, science, the media, public interest foundations and elsewhere to leverage change.

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