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Negotiating the social contract for net zero: Port Talbot, steel and the just transition

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JUST TRANSITION FINANCE LAB

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This briefing examines the just transition agenda at the Port Talbot steel works, South Wales, and compares the UK experience with steps to achieve green steel in other European countries. It closes with lessons and recommendations for action by the UK and Welsh governments, for Tata Steel and similar companies, and for the financial system.

The raw realities of industrial decarbonisation at Port Talbot

Making the shift to a net zero industrial system involves successfully navigating the transition out of fossil fuels and the transition into low-carbon production systems. This has to be done in ways that are economically, environmentally and socially sustainable. Fairness is essential to winning public support for policies to rapidly decarbonise the economy and this lies at the heart of the imperative of the just transition, which originated in the trade union movement as a strategy to promote workers' interests in the greening of the economy. Since its inclusion in the 2015 Paris Agreement, governments, business and finance, trade unions and civil society have been working to turn this high-level imperative into action across the world (UNFCCC, 2023).

Key to a successful just transition is to anticipate the implications of net zero policy and carefully manage the economic transformation in a way that maximises the social opportunities and minimises the risks for workers and communities, including through dialogue with affected stakeholders. While the European Union has been rolling out a comprehensive just transition programme in carbon-intensive regions, the UK Government has not developed a comparable strategy, although the devolved administrations in Scotland and Wales have filled some of the gaps. In the business sector, a small but growing number of British and international companies are adopting just transition strategies (such as energy utility SSE: see our case study), and investors are making the just transition one of their core actions to assess the credibility of corporate net zero plans across the economy (Climate Action 100+, 2023).

Some of the critical challenges involved in delivering this just transition have been highlighted in the ongoing case of Tata Steel's operations at Port Talbot, including how to bring together private and public capital to invest in both technology and people, how to make social dialogue effective to deliver fair outcomes and how to govern the local implications of industrial restructuring.

In September 2023, Tata Steel and the UK Government announced a joint agreement to invest £1.25bn in a new electric arc furnace (EAF) (including a £500m grant from the state) as part of a package to replace its coal-fired assets at Port Talbot (Tata Steel, 2023). Following discussions with its trade unions, who proposed alternative routes to decarbonisation, in January 2024 Tata confirmed that it would close its two blast furnaces and coke ovens at Port Talbot and started statutory consultation with its workforce (Tata Steel, 2024a). Port Talbot is the UK's largest single emitter of carbon dioxide (CO_2) and the combined measures would cut national emissions by around 1.5%.

For Tata, the plan marks a shift to greener steelmaking and secures the long-term future for its UK business, putting an end to persistent losses from ageing facilities. But for its workers, the result is up to 2,800 direct job losses from the closures and the EAF would employ far fewer workers when it becomes operational, potentially in 2027. There would also be knock-on impacts for the wider economy. According to the MP for Aberavon, Stephen Kinnock, this would be "utterly devastating" for the community (ITV News, 2024).

To tackle these issues, a new body, the Transition Board, was established by Tata and the Welsh and UK Governments at the end of 2023 with £100m to invest in local retraining and regeneration (£20m of this coming from Tata) (UK Government, 2023). Tata has also pledged a further £130m to mitigate the impact of the job losses and is seeking to maximise voluntary redundancy. After months of informal and formal dialogue, consultation and disagreements with the unions, the first blast furnace is scheduled to close by the end of June 2024 and the second in September. The unions have opposed the job losses, arguing that workers should not be made to pay for the transition: the first strike in 40 years at the site began on 21 June. All this is taking place during the UK general election campaign, making Port Talbot a

potential flashpoint on the benefits and the costs of green transition and a high priority issue for the incoming government.

The developments at Port Talbot have propelled the critical question of how to deliver a just transition to net zero to the heart of the UK's economic policy, making this case emblematic of a much wider structural challenge.

Box 1. Steelmaking and carbon emissions explained

Conventional high-carbon steel is produced through a process in which iron ore is converted to liquid iron in a blast furnace, is further reduced with carbon, then with the addition of scrap steel and allowing elements, turned into liquid steel. This is the most emissions-intensive steelmaking process.

A key technological evolution in steelmaking has been the electric arc furnace (EAF), which has significantly lower emissions because it can use up to 100% scrap steel and can be powered by renewable energy. This is one way of producing transformational low-carbon steel (classified as steel with less than 0.5t CO_2/t); the other is the new green hydrogen-based reduction of iron (H_2DRI).

Carbon capture and storage (CCS) was considered an option to decarbonise conventional blast furnaces, but is now less favoured.

Further reading:
https://afry.com/en/competence/green-steel
www.eurofer.eu/about-steel/learn-about-steel/what-is-steel-and-how-is-steel-made

The road to the end of high carbon steel at Port Talbot

As part of the India headquartered Tata group, Tata Steel has a distinctive corporate mission: "to improve the quality of life of the communities we serve globally, through long-term stakeholder value creation based on leadership with trust" (Tata Steel, n.d.). The group also has a unique ownership structure, being majority-owned at the holding-company level by public charities (Rajan, 2019). Two-thirds of the shares of the Tata Sons holding company sit in philanthropic trusts set up by the Tata family, which fund a range of social initiatives. The group controls about a third of the shares in Tata Steel itself, the remainder held by stock market investors.

In the past, Tata Steel has had to deal with the need for deep reform in its core operations to ensure survival. In the 1990s, Tata turned its original site at Jamshedpur in India from the most expensive to the lowest-cost steel producer in the world. To do this, the company worked closely with unions and workers to reduce the workforce by half (to 38,000) by 2006 – a move that was lauded by Forbes as one of the greatest business decisions of all time. According to commentators, Tata's homegrown transition out of an uncompetitive business model shows that "leadership must be willing to sacrifice, engage with core stakeholders and collaboratively devise solutions in the larger interest" (Shah, 2020).

For an avowed sustainability pioneer such as Tata, which has pledged to achieve net zero by 2045 (Tata Steel, 2024), Port Talbot is a test for how the company can deliver net zero in ways that improve the "quality of life of the communities" it serves. The lessons from Jamshedpur now look highly relevant for Port Talbot.

Tata's decision on Port Talbot came as a shock, but it was perhaps not a surprise. The UK's steel production peaked more than 50 years ago and has been in slow decline in recent years: its share of global output was just 0.3% in 2022 (World Steel Association, 2023). The origins of the planned closures go back to Tata's acquisition of Corus, the Anglo-Dutch steel group in 2007, at which time the

implications of climate change were already beginning to influence the sector. The EU established its Emissions Trading System (ETS) in 2005 and the UK's Climate Change Act was passed in 2008, committing the country to cut carbon emissions by at least 80% by 2050. From this point on, the future of the carbon-intensive steel sector became inextricably linked to its carbon performance. In June 2016, the UK deepened its commitment to net zero emissions by 2050, making it an obligation to build a green steel industry. But the central question remained: how would this be done?

After the acquisition of Corus, Tata's UK steel operations underperformed financially for years, in part due to factors including an overvalued pound, the dumping of Chinese imports and excessive energy costs compared with European competitors. In March 2016, Tata made what it called a reluctant decision to close its British steel operations. Although this decision was eventually withdrawn following talks with the Government, Tata did not produce a long-term plan for how UK steel was to prosper and create good jobs in the net zero era. Tata says it has lost over £4bn since acquiring Corus in 2007. In 2023, it says, the losses got worse, standing at over £1m per day (Tata Steel, 2024b): however, these numbers are contested by the unions. Pressure from its investors was one clear reason for Tata's decision to take action. The prospect of rising carbon costs was another.

Alternative proposals have been made by trade unions at Tata Steel to avoid compulsory redundancies and drive an expansion of the UK steel industry. For example, Unite has argued to keep one blast furnace and the associated plant open while the EAF is being built, and to add a hydrogen-fuelled direct reduced iron (DRI) facility to supplement the use of scrap steel for the EAF (Unite the Union, 2024a). Tata has rejected these, arguing that they are impractical, will cost a further £1.6bn and delay the completion of the EAF. Tata Steel has signalled that it is open to further investment in the future, such as in a direct reduced iron (DRI) plant, but only if financial support is available and the business conditions are right, such as access to competitively-priced natural gas and green hydrogen. This stand-off has led to votes for industrial action at Port Talbot from a number of unions, including Unite, Community and the GMB (see for example Unite the Union, 2024b).

Port Talbot highlights the scale of the investment needed to get to greener steel, both the technological and the human. Together, Tata and the Government's financial commitments total £1.25bn, with a further £230m to alleviate some of the social costs of the closure. The full social costs of the transition are unknown.

The Labour Party has pledged £2.5bn in its 'Plan for Steel' in addition to the £500m already committed if it were to win the 2024 general election (Labour Party, 2024). The Labour Party has urged Tata not to make any irreversible decisions before the election and called for the negotiation of a new investment plan which would protect jobs, including a job support and training guarantee.

Mapping the just transition in European steel

Looking across the range of existing initiatives to deliver low-carbon steel in Europe, the UK currently appears as an outlier in terms of the narrowness of its technological ambitions and a lack of clarity around the social outcomes of the shift. Across the world, steel is widely viewed as a strategic industry, particularly given growing demand to underpin the net zero transition. In an era of fragmenting trade and investment regimes, the importance of secure domestic capacity has increased markedly. In the UK, the shift to EAF will reduce imports of raw materials to make steel and also draw on the UK's extensive availability of domestic scrap. But the Port Talbot closure will leave the UK as one of the only G20 nations (alongside Saudi Arabia) without virgin steel production.

Table 1 below provides a comparison of 11 green steel projects in seven European countries. It shows that on the continent, every major European steelmaking country has chosen a combination of green hydrogen-based primary steelmaking and electric arc furnaces, with state support ranging from 12% to 66%. These countries have all made the strategic decision to support EAFs in the short run, but the big state investments have been directed towards green hydrogen-based steelmaking. Securing jobs has been a crucial component. However, a major question remains over the roll-out of green hydrogen for steel, given its significant costs.

Table 1. European green steel projects compared: technology, investment, jobs

Country	Company	Project/plant	Technology choice*	State support cost	Est. project cost	Steel production capacity (Mt)	Jobs secured (+) or lost (-)
Germany	Thyssenkrupp	Duisburg/ tkH2Steel	H_2DRI and EAF	~€2bn	~€3bn	~2.5	+400
Germany	Salzgitter AG	SALCOS	H_2DRI and EAF	~€1bn	~€2bn	1.9	Unknown
Germany	ArcelorMittal	Bremen and Eisenhüttenstadt	H_2DRI and EAF	€1.3bn	€2.5bn	3.8 (by 2026)	Unknown
France	ArcelorMittal	Dunkirk	H_2DRI and EAF	€850m	€1.8bn	~4 (by 2026)	Unknown
France	ArcelorMittal	Fos-sur-Mer	EAF			n/a	
Netherlands	Tata Steel	Ijmuiden	H_2DRI and EAF	(€3bn)	n/a	~7.5	~ +4500 ~ -150
Sweden	H2 Green Steel	Boden	H_2DRI and EAF	€371m	€6.5bn (€3.5bn in debt financing)	~5 (by 2030)	+10,000 (direct and indirect)
Finland	Blastr Green Steel	Inkoo	H_2DRI	N/A	€4bn	~2.5 (by 2026)	+1,200 (direct)
Norway	CELSA Armeringsstål AS	Mo I Rana	H_2DRI	NOK 121.4m	n/a	n/a	Unknown
United Kingdom	British Steel	Saltend, Scunthorpe	EAF	Est. ~£300m (Undecided)	n/a	n/a	-1,500 to 2,000 (conversion from BF-BOF to EAF)
United Kingdom	Tata Steel	Port Talbot	EAF	£500m	£1.25bn	3	-2,800 (conversion from BF-BOF to EAF)

Notes: BF-BOF= blast furnace basic oxygen furnace. *Almost all DRI plants will start operating on natural gas but will be constructed to be hydrogen-ready and switch to green hydrogen, with varying timelines.

Source: Company materials, news clippings/press releases and EU documents (see hyperlinked sources).

The projects reviewed include Tata Steel's operations in the Netherlands. Tata Steel has negotiated a deal with the Dutch government in response to the company's Green Steel Plan (Tata Steel, 2023). This would involve the construction of a direct reduced iron plant combined with an electric arc furnace, which would initially run on natural gas but can also run on hydrogen without modification, thereby greening the process. The current plan is quite different from initial proposals by the company which had relied on the use of carbon capture and storage (CCS) at Tata Steel's plant at Ijmuiden. The Netherlands Trade Union Confederation (FNV) opposed this, proposing an alternative that would combine DRI and EAF technologies, and in 2021 the union took industrial action (including a strike) to win support for its proposals and protect the plant's 9,000 or so direct employees from job losses (Reuters, 2020). The settlement combined a more ambitious green transformation and an agreement that there would be no

compulsory redundancies. The Dutch parliament as of June 2024 has agreed to a subsidy package of €3bn for the Tata Steel plant in Ijmuiden (GMK, 2024).

The recent vote for industrial action at Port Talbot has echoes of the events at Tata's Dutch operations and Unite has highlighted that "at the Tata plant in the Netherlands, the blast furnaces are being kept open and jobs protected as the company builds an electric arc furnace and invests in hydrogen DRI technology" (Unite the Union, 2024b). The divergence in outcomes has its roots in the financial performance of the two sites, differing workplace cultures in the two countries and the differences in government industrial policy.

In France, the state subsidy for ArcelorMittal includes both H_2DRI and EAF in the same package. It has been negotiated that one plant will transition to EAF and the other will make green hydrogen-based primary steel supported by long-term power purchase agreements with French national power utility EDF.

In Germany, the Government has committed to supporting not just the capital expenditure (CapEx) investment of almost €5 billion required for steelmaking: it has acknowledged that primary green steelmaking will need support for operational expenditure (OpEx) as well. It has unveiled an OpEx subsidy scheme in the form of Carbon Contracts for Difference (CCfDs), which compensate companies for the additional costs of switching to climate-neutral production in green hydrogen-based steelmaking (and glassmaking). The contracts last 15 years, enabling firms to take a long-term approach in their transition to cleaner production. The first phase has €4 billion allocated, a sum that will eventually total €20 billion in OpEx support in the coming years (Clean Energy Wire, 2024).

Charting an equitable green industrial future for Port Talbot - and the wider UK

Port Talbot is still in the very early stages of its net zero transition, and the path ahead remains contested. The collision of the two powerful forces of financial viability and net zero have created a situation where there could be severe dislocation for workers, communities and the regional economy of South Wales, where Tata is the one of the major private sector employers. Port Talbot exposes faultlines in Britain's transition, not least the inability to plan ahead and anticipate the human consequences of inevitable shifts. Assessing and then delivering just transition pathways for workers and communities takes time and needs to start as early as possible, involving those impacted from the outset. At present, it risks becoming seen as an example of an unjust transition.

Port Talbot shows the urgent need for companies, communities and countries to co-design forward-looking just transition strategies, both to avoid the negative consequences of transition shocks and to be well-positioned to take advantage of the opportunities. In the UK, this is an economy-wide rather than a site-specific imperative. Port Talbot is not alone: there are at least three other major carbon polluters accounting for over 3 per cent of 2022 emissions set to close operations in the near future, including in England the Scunthorpe blast furnaces and the UK's last coal-fired power station at Ratcliffe on Soar, and in Scotland the Grangemouth oil refinery (Just Transition Commission, 2023). This is the new terrain of the just transition that is being navigated by steel companies and the industrial sector across Europe and worldwide.

A renewed Port Talbot could become a key part of a green industrial cluster around the Celtic Freeport initiative offering new, quality jobs, but the steps between the closure of the unsustainable blast furnaces and the growth of a clean power future are not yet clear.

As a way forward, first the UK as a whole needs to put the just transition at the heart of a modern industrial strategy. Make UK, a body representing the UK manufacturing industry, has identified that "a lack of a proper, planned, industrial strategy is the UK's Achilles heel" (2023). A refreshed industrial strategy would need to communicate a shared ambition with an investment plan to produce transformational change. Recent estimates from the LSE Gratham Research Institute suggest that the UK has to increase annual public investment by 1% (c. £26bn) and private investment by 3% (c. £77bn) to build a productive, competitive economy that is sustainable *and* inclusive (Zenghelis et al., 2024).

This refreshed industrial strategy needs to have the just transition at its heart. One core feature will be to ensure that public funds supporting the greening of the economy are tied to measurable social outcomes such as employment levels, fair work conditions, skills development and community impact (similar to the Community Benefit Plans tied to the US Inflation Reduction Act, for example). Another would be to ensure that the human implications of decarbonisation are anticipated and addressed in advance. To do this, the UK Government should require the country's top industrial emitters to consult, negotiate and publish just transition plans to show how they will manage the social dimension of net zero. Granular sectoral plans will also be needed. For steel itself, an industrial strategy would recognise the need to combine both EAF and DRI technologies and maintain well-paid and high-skilled jobs, and it would have social dialogue at its core. It would also need to acknowledge the need for significant state support for H_2DRI steelmaking, both CapEx and OpEx, as well as affordable green electricity prices in the long term.

Second, Wales and all the nations and regions of the UK need their own industrial strategies. These should connect with the UK-wide approach and bring to bear the place-based needs and aspirations of specific communities and economies. For Wales, the industrial strategy would be rooted in its unique Well-Being of Future Generations Act (Future Generations Commissioner for Wales, 2015), which forms the basis for the Welsh Government's emerging just transition framework that aims to make the shift to net zero result in "a prosperous, resilient, healthier and more equal country". Focusing on Port Talbot, there is certainly potential for South Wales to become a prosperous net zero industrial hub, but this requires an honest assessment of the UK's track record in revitalising post-industrial areas (such as the former BP petrochemical works at Baglan Bay).

A local economic action plan is being developed for Port Talbot to tackle the immediate impacts of closures for workers and impacted supply chains and to address long-term regeneration (UK Government, 2024). Addressing the intergenerational nature of this shift will be crucial, not least to ensure prospects for young women and men in the area.

Third, businesses across the UK need to develop just transition strategies as part of their net zero plans. The Government committed in 2021 to introducing a requirement for the UK's largest listed and private companies to publish transition plans. It also established the Transition Plan Taskforce (TPT) to set out a 'gold standard' framework, which was published in 2023 along with sector-specific guidance (TPT, 2023). Focused advice on how net zero planning can support a just transition has also been prepared for the TPT by representatives of business, finance, trade unions and civil society (Just Transition Working Group, 2024). In the UK, companies such as SSE are showing how the just transition can be turned into operational practice as part of net zero plans. Globally, the Climate Action 100+ investor-led initiative has set out its just transition expectations for the world's most carbon-intensive businesses, which include "to retain, retrain, redeploy and/or compensate workers affected by its decarbonisation efforts" and to develop a just transition strategy with quantified key performance indicators to measure progress. Given the significance of its operations in the UK, Tata Steel itself needs to design and implement a credible, robust and just transition plan for net zero at the corporate and national levels.

Finally, making all this happen will mean channelling the UK's financial system so it actively supports net zero goals through a just transition across the country. This will involve significant additional public and private investment in the physical, natural, social, knowledge and human capital needed for a net zero economy. In Port Talbot and the wider South Wales economy, financing the just transition will require an investment plan and prospectus to bring coherence and complementarity to the many separate decisions that will need to be taken. Key players would include Tata Steel and other major companies, the UK and Welsh Governments, institutional investors and commercial banks, new and well-established small and medium-sized enterprises (SMEs) along with social enterprises, and public investment banks (notably the British Business Bank for SMEs, the UK Infrastructure Bank and the Welsh Development Bank). Attracting and deploying this capital will depend on robust business models that show how value will be created and shared, and how financing the just transition is a more compelling option compared with alternative uses of funds. Putting together such an investment prospectus is a key task that lies ahead and it will need to contain clear goals and metrics to maximise the creation of social value for local people.

Achieving all of this will require newfound leadership from private as well as public financial institutions, applying their strategic commitments to net zero and just transition to the raw realities of industrial transition in a particular place.

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