

Circular Steel: Strengthening the UK's Industrial Supply Chain



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Executive Summary

The UK steel sector is undergoing its most significant transformation in decades. As it seeks to decarbonise its historically carbon-heavy operations, with a move towards Electric Arc Furnace (EAF) production, steel scrap will become the pre-eminent raw material.

Despite this transformation, the sector continues to face significant challenges including global overcapacity, high energy costs, and weak domestic demand.

Recent UK Government interventions on energy pricing and procurement have been welcomed, but substantial competitiveness gaps remain. It is currently cheaper to import steel made overseas from exported UK steel scrap than to manufacture it domestically. This represents a clear market failure that must be addressed for the steel industry to become globally competitive, sustainable, and serve as the foundation for the UK's manufacturing base.

The UK has an abundance of readily available steel scrap, producing approximately 10 million tonnes per annum. Currently, more than 80 percent of that resource is being exported and much of that material then returns to the UK in the form of finished goods, undercutting domestic manufacturers and exporting jobs and emissions.

This market failure is driven by the export markets' tolerance for lower-quality steel scrap containing higher levels of non-metallic impurities. Overseas processors, supported by lower recycling and manufacturing costs, also benefit from conditions that make it viable to invest in advanced screening, shredding, and refining technologies to meet their range of quality requirements.



As a result, UK recyclers are incentivised to meet only minimum standards, discouraging investment in higher-quality domestic processing infrastructure, weakening both the recycling sector and the UK's industrial competitiveness.

To meet the fast-growing demand for EAF-quality scrap, expected to rise by 70% from 2027, the UK must urgently invest in domestic shredding, screening, and processing capacity¹. This will ensure a reliable supply of high-quality, low-impurity steel scrap¹ to power the next generation of low-carbon steelmaking.

The Circular Steel Sub-Committee, established in September 2025, brings together the UK's leading steel producers, metal recyclers, and independent experts to develop industry-led solutions that support this transition. Through this collaborative approach, the Sub-Committee has identified key market failures and developed a practical, industry-driven strategy to address them.

This report outlines those challenges and introduces a voluntary code of standards that can be implemented rapidly. Targeted government support, through financing for domestic steel scrap processing capacity and enabling legislation, will lay the foundation for a competitive, sustainable, and globally resilient UK steel industry.

- 1. Provide strategic investment in UK scrap processing and infrastructure.**
- 2. Eliminate waste cost arbitrage between domestic and export markets.**
- 3. Establish clear market definitions for steel scrap products and processing standards.**
- 4. Strengthen quality standards and enforcement mechanisms.**
- 5. Reduce the operating cost base for UK metal recyclers.**

The recognised wider steel industry challenges of overcapacity, procurement, energy costs and carbon leakage remain outside the scope of this paper.

¹The steel strategy-the plan for steel; UKG Department for Business & Trade; February 2025 available at www.gov.uk/government/consultations/input-into-the-steel-strategy/the-steel-strategy-the-plan-for-steel and National Wealth Fund Taskforce Report & Sector Analysis; July 2024; available at www.greenfinanceinstitute.com/programmes/national-wealth-fund-taskforce

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The Metal Recycling Market

2.1 Existing Market

Steel scrap is any steel that becomes available from manufacturing or household waste generation and from recovered steel in buildings, infrastructure, vehicles and other products that have reached the end of their operational life.

While the UK is at an advantage due to the volume of steel scrap produced annually, the limited, historical demand from the UK steel industry has meant that the metal recovery and recycling sector has primarily served exports markets. This limits the availability and quality of domestic steel scrap, as export markets do not value greater processing which can be done at low cost at destination and without equivalent environmental and social standards².

Future EAF steel production in the UK will require material that has been processed to separate ferrous

and non-ferrous elements, ensuring high-quality and low-impurity feedstock. The processes involved are energy-intensive, require additional investment and necessitate the UK steel scrap market to incentivise domestic processing.

A significant challenge within the existing market is the prevalence of lithium-ion batteries in scrap metal. These pose a fire hazard both in domestic processing and in the export of material, raising costs and undermining the sector. Left unchecked, this issue will compromise the ability of the scrap metal industry to continue storing and processing material. Accordingly, high risk sources of lithium-ion batteries must be classified and directed towards processes that can deal with them safely and effectively.

A summary of the UK's current scrap market, including source, processing route, product definitions and approximate volumes can be found in Appendix 1.

To meet the anticipated increase in EAF demand and produce the quality feedstock required by modern steelmaking, the UK metal recovery and recycling market must be transformed to enable cost-competitive, high-value, domestic processing underpinned by advanced shearing, sorting, screening and shredding.

This transformation will depend on partnership between industry and government, ensuring the policy and economic conditions are in place to drive investment in UK-based facilities.

2.2 The Future Market - Addressing the Problem

Scrap consumption from the steel sector could nearly treble by 2050, increasing up to 7Mt per annum. Even at the more conservative end, steel scrap consumption is expected to rise to 4.2Mt.

The announced EAF capacity at Port Talbot alone, as a result of Tata Steel UK's £1.25 billion co-investment, will likely consume up to 2Mt more steel scrap than the site's previous consumption, a 70 percent increase annually from late 2027³.

To ensure UK steel producers have access to sufficient volumes of the right quality of steel scrap, clear action is needed to incentivise domestic processing. This will require commitment from recyclers, steelmakers, and government alike, supported by targeted policy measures that raise standards, improve quality, and minimise leakage through exports.

Central to this effort is a redefinition of the market, including updated processing practices, product standards, and classifications for domestic consumption, with a focus on shredding and screening of material to ensure high quality standards and to reduce the potential risks associated with batteries and other non-conforming materials.

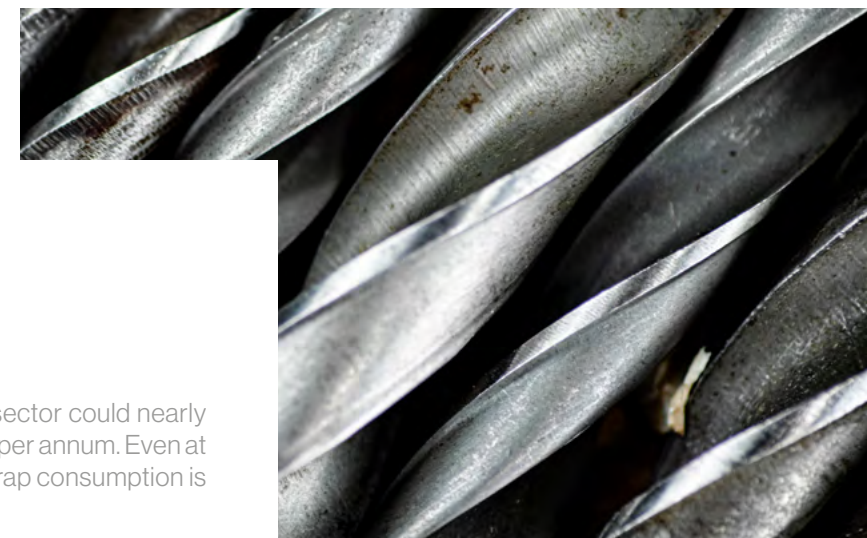
A proposed redefined steel scrap market – including revised process routes, product standards and definitions – can be found in Appendices 2 and 3.

Achieving these enhanced product standards will drive domestic processing, improve feedstock quality, and support the competitiveness of UK EAF steelmaking. In short, by ensuring materials are directed to domestic shredding and screening processes, the UK will:

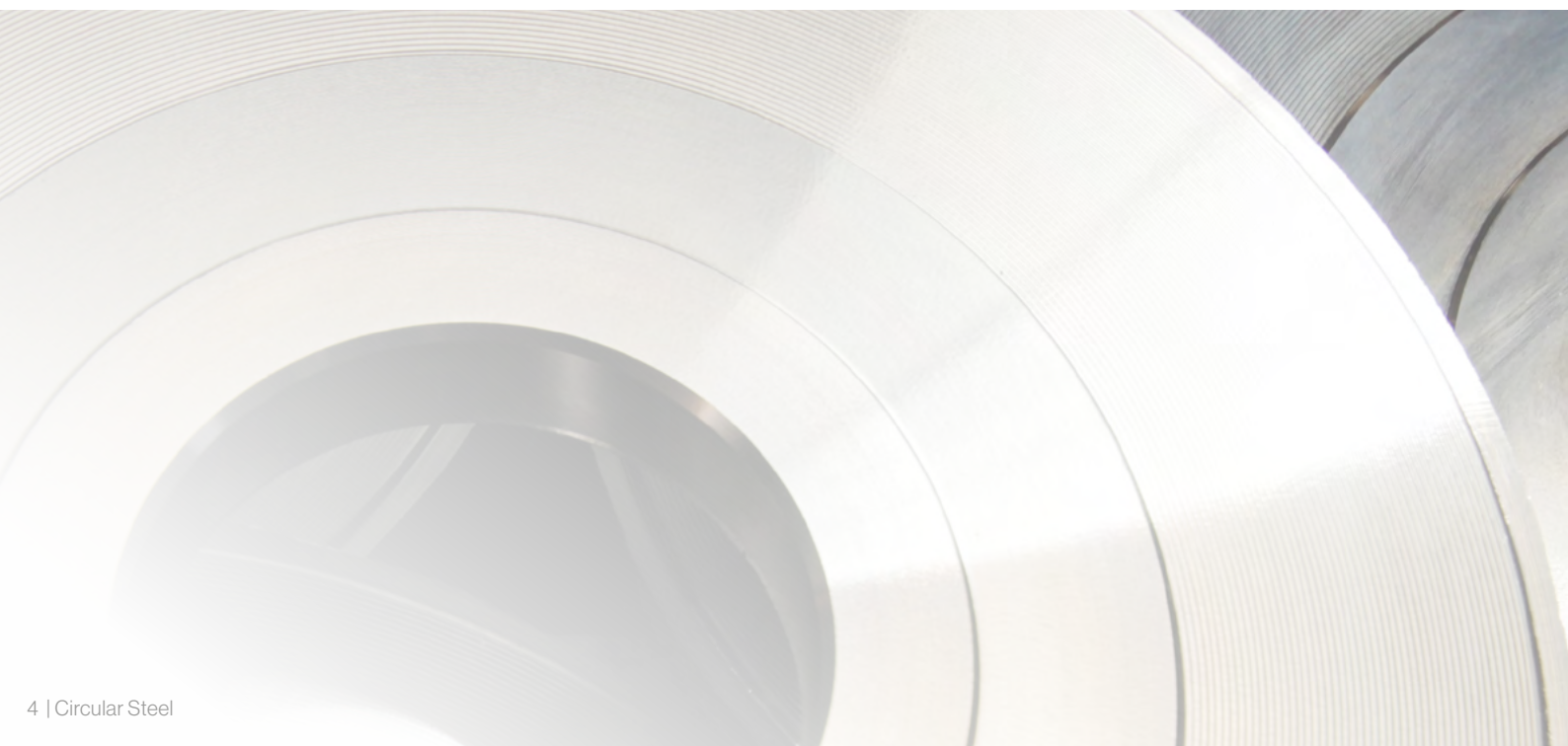
- 1. Produce the high-quality, impurity free material required for domestic EAF steel production in the UK;**
- 2. Produce environmentally compliant products for export; and**
- 3. Address the problem posed by fire-risk and other hazardous materials routinely found in products for domestic consumption and export.**

² UK Steel, Steel Scrap: A Strategic Raw Material for Net Zero Steel, December 2023

³ Ibid



Realising this vision will require significant industry investment in shredding and screening infrastructure, supported by targeted government policy to reduce costs, encourage compliance, and underpin long-term capital deployment.



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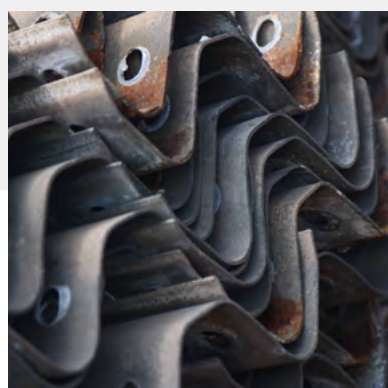
An Industry Led Solution

To support the UK Government's Circular Economy objectives, drive up feedstock standards for UK steel producers and ensure best practice across the industry, the Circular Steel Sub-Committee has developed an industry-led Voluntary Code of Standards for metal recyclers.

This Code demonstrates industry commitment to improvement in the quality of domestically available material, but it must be underpinned by government action to create fair competition, a sustainable operating environment and investment clarity.



Core Commitments



3.1 A Voluntary Code of Standards

Our Vision

The UK metals recycling industry is committed to enabling the transition to Electric Arc Furnace (EAF) steelmaking.

It will deliver a secure, high-quality domestic scrap steel supply chain, aligned to the revised product definitions and standards developed by the Circular Steel Sub-Committee.

Through investment in processing, quality assurance, and traceability, we can drive circular manufacturing and strengthen British industry. However, success will require government partnership, particularly in enforcement, cost competitiveness, and infrastructure investment.

Principles

All participants adopting the Code agree to uphold the following principles:

- **Quality standards:** Recyclers will comply with the revised product standards and defined processing requirements, ensuring materials meet EAF-ready specifications.
- **Compliance and accountability:** Operators must demonstrate measurable adherence to the Code through documentation and transparent operations.
- **Continuous improvement:** Participants commit to continuous investment in technology, skills, and process innovation, supported, where possible, by government and industry programmes.

Quality and Product Standards

We will:

- Adopt the revised UK market definitions, as agreed by the Circular Steel Sub-Committee.
- Ensure all feedstock supplied to UK EAF producers is traceable and compliant with these new market definitions.
- Supply material that meets visible impurity-free standards, verified through inspection and documented screening.
- Collaborate with industry and government to further develop the market, providing a quality assurance framework for EAF producers.

Investment in Processing and Technology

We will:

- Invest in shredding, shearing, and screening infrastructure capable of meeting the revised product standards.
- Expand UK-based processing capacity to ensure domestic availability of high-quality scrap steel.
- Develop residue recovery and separation systems to maximise ferrous and non-ferrous yield and enhance product standards.

Our Shared Goal

By 2028, the UK metals recycling industry will seek to:

- Deliver fully specification-compliant, low-impurity feedstock under the new national standards; and
- Secure a world-leading, circular, low-carbon steel supply chain.

Note: The Circular Steel Sub-Committee is committed to working with external partners to finalise these standards and this should be done in conjunction with both the BMRA and UK Steel as the representative trade bodies.

04 Policy Recommendations

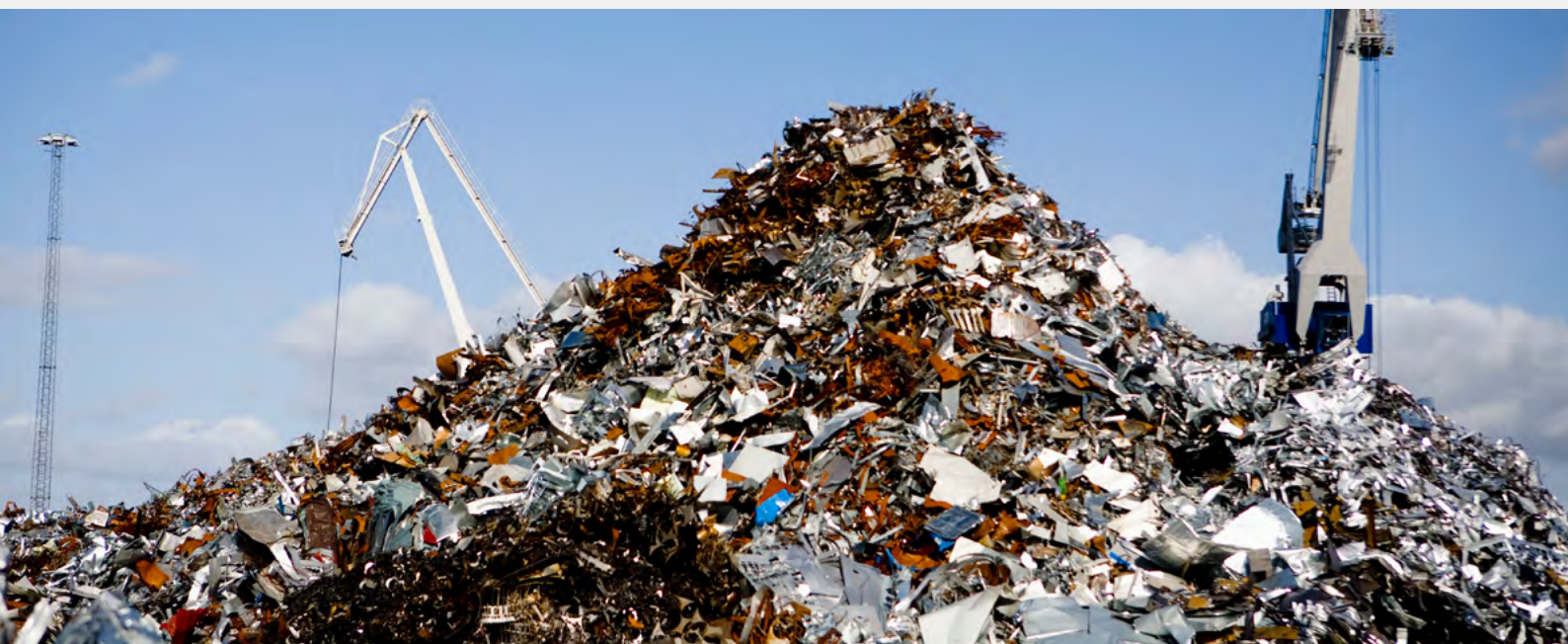
To uphold the Circular Steel Sub-Committee's commitments, as set out in the Voluntary Code of Standards, this report recommends a set of regulatory, economic, and market measures that should form part of the forthcoming UK Government Steel Strategy.

4.1 Economic and Market Incentives

To meet the future demand for steel scrap, limit material leakage and ensure adequate processing of material, additional investment and policy support is required for the metals recovery and recycling supply chain.

Recognising the criticality of the industry to future domestic steel production in the UK, this report highlights the need for UK Government to:

- **Provide a funding model for steel scrap investment** – To achieve the rapid transformation that's required to enable a cost competitive UK steel industry, and in keeping with recommendations from the National Wealth Fund Taskforce, UK Government should prioritise investment in the steel scrap supply chain. Funding should focus on:
 - Screening and shredding technology
 - Domestic rail logistics connectivity
 - Domestic water logistics connectivity
 - Power connectivity
 - Fire prevention and management infrastructure
 - Research and Development (R&D) in steel scrap processing
- **Address high energy costs for the sector** – Include metal recovery and recycling businesses within the eligibility criteria of the British Industrial Competitiveness Scheme. This would help bridge the cost competitiveness gap with overseas competitors, strengthen domestic supply chains, and support long-term investment in processing capacity⁴.
- **Streamline the planning system to support future investment** – In order to ensure timely investment in steel scrap processing capability and capacity, the UK Government should fast-track planning reforms. This will ensure the metal recycling industry can match the timelines of the steel industry and have confidence in investment opportunities.



4.2 Regulatory Modernisation and Fair Competition

A modern, transparent and consistently enforced regulatory framework is critical to the future competitiveness and sustainability of the UK metals recycling sector. Current regulatory arrangements have inadvertently limited domestic processing and contributed to an unbalanced domestic-export market model. In particular, inconsistent and subjective enforcement of standards has contributed to material leakage, discouraged investment and undermined confidence in the sector.

The Sub-Committee notes that the Environment Agency's S2 exemption (storing waste at a secure site) is under review, with proposed changes to reduce current storage limits from 15,000 tonnes to 4,000 tonnes. We recommend that this is expedited and that the revised limits clearly define what materials may be stored and align with the agreed product definitions, as set out by this paper.

Further to this, the Carriers, Brokers or Dealers License and T9 exemption (recovering scrap metal), which currently allows sites to process up to 1,000 tonnes of scrap metal at any one time, are being phased out in favour of full environmental permitting. The Sub-Committee therefore recommends that all scrap metal intended for export must originate from fully permitted sites to ensure environmental integrity and regulatory consistency.

The Sub-Committee recommends several key reforms aimed at improving oversight and raising quality standards, linked to the proposed revised market set out in Appendix 2:



- **A single recycling operator and export licence for high-volume recyclers** – Establish a unified licensing system to simplify oversight, increase transparency, and enhance accountability. Funds raised through licence fees should be ring-fenced for inspection and enforcement to ensure that compliant operators are not undercut by non-compliant competitors. A de minimis threshold should exempt small-volume recyclers, or consideration should be given to a sliding-scale approach.
- **A quality framework and accredited standards system** – Build on the revised product definitions developed by the Sub-Committee to create a national quality assurance framework with objective, measurable standards. Compliance with this framework should be a pre-requisite for licensing and export approval, ensuring consistency, traceability, and market confidence.
- **Enhanced inspection models** – Introduce a risk-based inspection regime at both the point of processing and export, modelled on successful international systems. This will ensure compliance with environmental, quality, and safety standards while supporting continued investment in domestic processing capability.
- **Standard practices for non-conforming materials** – Establish consistent, standardised disposal practices for non-conforming materials, including batteries, to prevent cost arbitrage, reduce illegal dumping, and encourage investment in legitimate recycling infrastructure.

These regulatory reforms will create a level playing field, enhance enforcement capability, and provide the transparency required to attract sustained private investment in the UK's recycling infrastructure.

⁴Ibid

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Implementation Roadmap

Delivering a sustainable, circular steel scrap supply chain requires coordinated action from government, industry, and regulators.

This report proposes a phased implementation, setting out key milestones from 2025 to 2030.

Foundation

End 2026

- Deliver energy cost relief for qualifying recyclers through inclusion in British Industrial Competitiveness Scheme.
- Mobilise public-private co-funding for shredding, screening, and processing infrastructure.
- Adopt the Voluntary Code of Standards for the metals recovery and recycling sector and the revised market definitions and product standards for EAF-grade steel scrap.
- Implement the Environment Agency's waste exemption reforms.
- Consult on proposed licensing, quality assurance and inspection proposals.

Scale-Up

End 2027

- Transition from the Voluntary Code to mandatory national quality and licensing standards.
- Implement standard practices for non-conforming materials.

Maturity

End 2028

- Scale up certified EAF-grade scrap supply across the UK.
- Introduce digital traceability systems for material tracking.
- Review policy effectiveness and update measures based on performance data.

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Conclusion

The Circular Steel Sub-Committee calls for a coordinated approach to strengthening the UK's steel scrap supply chain, improving processing quality and retaining value within the domestic economy. Achieving this will require industry commitment to processing material through screening and shredding, supporting investment, modernising of regulation, and creating fair competition across the recovery and recycling sector.

6.1 Key Recommendations:

- 1. Targeted economic support** – Address high energy costs by including recycling operations in government support schemes and create co-investment opportunities for innovation in steel scrap processing. A focus of investment should be on additional screening and shredding capability in the UK.
- 2. Domestic market transformation** – Define steel scrap products and standards, remove cost disparities that favour exports, and incentivise greater domestic processing.
- 3. Regulatory reform and fair competition** – Simplify and strengthen licensing, remove outdated exemptions, and introduce a single operator/export licence supported by a clear quality assurance framework.

Together, these measures would create a fairer, more efficient, and sustainable steel scrap market – supporting UK steelmakers, driving investment in metal recovery and recycling, and securing the foundations for a circular, low-carbon steel economy.

The Circular Steel Sub-Committee's ambition is to ensure that UK steel scrap is used to deliver low carbon steelmaking and through a positive transformation of the market for metals recovery and recycling in the UK.

By supporting investment, enforcing compliance, and enhancing quality, the UK can turn its abundant steel scrap into an economic growth opportunity and a strategic asset for low carbon steelmaking. The proposed reforms are intended to ensure fairness, transparency and shared prosperity.

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This work has been developed under the Circular Steel Sub-Committee of UK Steel, operating in full compliance with the Competition Law Compliance Statement and Terms of Reference agreed by all participants.

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Appendices

Appendix 1

Summary of the UK’s current steel scrap market, including source, processing route, products and approximate volume. Processing Route Definitions can be found in Appendix 2 and Product Definitions in Appendix 3.

Source	Material	Processing route (for domestic consumption)	Steel scrap products	Approximate tonnage*
Steel supply chain	Production by-products, recycled within operations	N/A	N/A	1.5 million
A. Post consumer	End of life vehicles	Shredding	Shredded steel	3 million
	Large domestic appliances			
	Household recycling			
	Consumer packaging	Baling	Baled cans	
B. Construction and demolition	Mixed construction steel (cladding)	Shearing	Shredded steel	4 million
	Reinforcing bar and mesh	Shredding (light material only)	HMS2	
	Heavy structural steel and plate		HMS1	
			HMS1/2	
			Rebar	
C. Post industrial	Production by-products	Requires little further processing	New production	3 million
	Machining by-products		Borings and cuttings	
	Rail infrastructure	Shredding may be required in machinery with non-ferrous contaminants	Rails	
	Obsolete machinery		HMS1/2	
		Shearing may be required depending on size of material		

*Note: The approximate tonnage volumes are based on standardised UK production. There may be some variation year to year in the actual volumes.



Appendix 2

Revised Steel Scrap Market - Product Specifications for Domestic Steel Consumption** and Processing Route Definitions

Source	Material	Processing route	Steel Scrap Products	Approximate tonnage	
A. Post consumer	End of life vehicles (no engines / transmissions)	Enhanced shredding	Enhanced shredded steel	3 million	
	End of life vehicles (no engines / transmissions)	Conventional shredding	Shredded steel (ELV)		
	End of life vehicles (whole car)	Conventional shredding	Shredded steel (ELV)		
	Large domestic appliances	Conventional shredding	Shredded Steel (LDA)		
	Metals from household waste recycling		Shredded Steel (HWR)		
	Metals from household waste incineration		Shredded Steel (INC)		
B. Construction and demolition	Thin sheet constructional steel	Enhanced shredding	Enhanced shredded steel	6.5 million	
	Thin sheet constructional steel	Conventional shredding	Shredded steel (C&D)		
	Light mixed constructional steel	Conventional shredding	Shredded steel (C&D)		
	Heavy mixed constructional steel	Conventional shredding	HMS1 (C&D)		
	Heavy structural beams & plate	Conventional shredding	Plate and structural Plate and structural (mixed)		
	Heavy structural beams & plate	Shearing	HMS1 (machinery)		
	Obsolete machinery & equipment		HMS1 (mixed)		
	Reinforcing bar & mesh	Shearing	HMS1 rebar		
	Light mixed constructional steel	Shearing	HMS 1/2 (unscreened)		
	Heavy mixed constructional steel				
	Reinforcing bar & mesh				
	Obsolete machinery & equipment				
	HMS1/2	HMS1/2 screening	HMS 1/2 (screened)		
	C. Post industrial	Production by-products	No processing required / baling		New production
Rail infrastructure		Shearing	Rails		

**Further work is required, in partnership with stakeholders - government, regulatory bodies and industry – to finalise and agree defined processing and product standards for a future steel scrap market, servicing domestic UK steel production.

Product Specifications

UK specifications for recycled raw materials were previously agreed in 2006 by the BMRA, UK Steel and the Cast Metals Federation, it is recommended that these are reviewed and aligned with our international trading partners. Steel scrap is largely exported internationally under the product standards defined by ISRI in the USA (now REMA), EU have their own product standards. The initial focus will be on the relatively small number of high-volume steel scrap products.

As a general principle, as set out in the ISRI Scrap Specifications 2022⁵, all steel scrap products shall be largely free of non-metallic impurities, and other metals:

Plastic	Waste Electronics & Electrical Equipment (WEEE)	Batteries
Wood	Switchgear	Lithium-ion batteries
Rubber	Transformers	Sealed cylinders
Soil	Capacitors	Gas canisters
Stone	Circuit boards	Munitions
Concrete		Asbestos

Minor levels of non-metallic impurities are inevitable and acceptable **only where the necessary steel scrap processing standards are evidenced and documented.**

Processing Route Definitions

The Group will look to define Best Available Techniques (BAT) for scrap processing linked to the clear product definitions. For BAT to work, they will need to dovetail with the existing appropriate measures, BAT emissions limits (if subject to the Industrial Emissions Directive) and permit conditions.

Simplified processing route definitions:

Processing route	Definition
Shearing	The process of cutting large pieces of scrap steel into smaller, more manageable sizes using interchangeable blades called a scrap shear.
Baling	The process of using a hydraulic baler to compress and compact scrap metal into dense, uniform blocks called bales. This process makes the metal easier and more economical to store and transport to recycling and processing facilities.
Conventional shredding	The process where large pieces of scrap metal, such as from old cars or appliances, are broken down into smaller, more manageable fragments using blades and/or hammers. This process reduces the size of the metal, and can liberate non-metallic materials like plastic and rubber.
Enhanced shredding (new process):	The process of magnetically separating scrap metals, originating from a defined low-residual feed mix, and then processed through additional screening and processing to liberate high bearing non-confirming materials.
HMS 1/2 screening	The process that separates crushed or granulated scrap metal by particle size, often using screens with specific-sized openings. This process removes inert materials like soil and stones, separates different metal types, and groups materials into homogeneous fractions, increasing efficiency and the value of the scrap.

⁵ISRI Specifications, July 2022

Appendix 3

Simplified Product Definitions

Product	Definition
HMS	Heavy Melting Steel, made up of steel and wrought iron. It is separated into two categories: - o HMS1: Wrought iron and/or steel scrap 1/4 inch and over in thickness. - o HMS2: Wrought iron and steel scrap, black and galvanized, 1/8 inch and over in thickness.
HMS1/2	Heavy Melting Steel (HMS) 1/2 (80:20), meaning 80 percent HMS1 and 20 percent HMS2. This is a mixture of light mixed steel such as cladding, reinforcing bar and mesh and obsolete machinery. Due to the blended nature of the product it is hard to assess the true relative proportions of HMS1 and HMS 2 in the mix and low-quality material contaminated with post-consumer scrap.
Shredded steel	Homogeneous iron and steel scrap, magnetically separated, originating from automobiles, HMS1 and HMS2, miscellaneous baling and sheet scrap.
Enhanced shredded steel (new product):	Homogenous iron and steel scrap, magnetically separated, originating from a defined low-residual feed mix, processed through additional screening and processing to liberate high bearing non-confirming materials.
Rebar	A ridged steel rod, for use in reinforced concrete.
Rail	A hot-rolled, long profiled beam for use on railway tracks.
Plate	A flat steel product, with a thickness of 6mm or more for use in construction and shipbuilding.
Borings & cuttings	Manufacturing process by-products.

