

EuRIC Circular Metals Strategy

Introduction

Metal recycling is indispensable to reach EU's climate neutrality objectives by 2050 ([EU Green Deal](#)) and shifting from a linear to a circular economy ([Circular Economy Action Plan 2.0](#)). Metals can - thanks to their intrinsic properties and market value - be indefinitely recycled and for this reason they play a key role in Europe's sustainable transition. Metal recycling, is not only the most resource efficient option but also the most climate and energy efficient route when compared to the production of metals using primary raw materials¹. Last but not least, given their high value, metals are not littered but collected and recovered to close new material cycles. As a result, metal ores and metal scrap, meeting quality specifications, are commodities priced and traded globally which could help the globe to further close the loop of materials in global value chains and avoid littering related problems.

Europe's metal recycling industry – which is composed of SMEs and large players – is one of the fastest growing industry, providing local, non-outsourcable jobs. It offers a unique infrastructure of facilities spread all over Europe, that supplies steel mills and smelters located in and outside Europe with quality grade metal scrap which is resource and climate efficient. Metal recyclers' priorities, as outlined in EuRIC metals strategy, are threefold:

- i) Creation of a well-functioning internal and global markets for metals
- ii) Rewarding metal recycling environmental benefits
- iii) Increase the intake of commodity-grade metal scrap in metal production

1. Well-functioning markets for metal recycling

Metal value chains are intrinsically global. This is a fact both for metal ores and concentrates as well as for commodity-grade recycled metals. For this reason, a well-functioning internal market and unhampered access to international markets is essential to safeguard the competitiveness of Europe's metal recycling industry.

➤ ***Boosting Europe's internal market to support circular metals value chains***

Reducing administrative burdens is, together with free and fair trade of metal scrap, essential to increase the use of scrap metals in the production of metals and level the playing field with virgin raw materials. Existing and/or upcoming strict regulations on metal scrap are, however, being characterized as a huge bottleneck. For this reason, the main priorities for EU's recycling industry include:

- ✓ Guarantee a proper status for metal scrap meeting industry specifications which shall no longer be classified as waste;
- ✓ Fasten permitting procedures for recycling facilities playing an essential role in the transition towards a circular economy;
- ✓ Speed up procedures for cross-border movements of secondary raw materials, in particular metal scrap, to ensure that supply meets demand within Europe's internal market and beyond;
- ✓ Improve the interface between waste, products and chemicals legislation through a risk-based approach to support metals' circular value chains;
- ✓ Level playing field is needed for industrial installations in Europe that are under the Industrial Emission Directive's scope, with similar permitting conditions and no substantial deviations from agreed BAT Conclusions.

¹ Compared to primary production, steel, aluminum and copper recycling save respectively 58%, 92% and 65% of CO2 emissions (FEDEREC, 2017).

➤ ***Upholding free and fair trade to uphold the competitiveness of Europe's metal recycling strategy***

Metal scrap is a major commodity priced on metal exchange market and traded globally like primary raw materials. Scrap supply in Europe is driven by the large quantity of end-of life products containing metals recovered on an annual basis (e.g., construction and demolition waste, packaging and end of life vehicles (ELVs) etc.). However, although Europe's reserve of metal scrap is significant, metal demand remains largely driven by other parts of the world, in particular Asia benefiting from more dynamic building sectors or more recently installed capacities designed for secondary raw materials. Increased demand of metal scrap from all corners of the globe has allowed the EU-28 to become the world's largest steel scrap exporter. Only in 2019, exports of steel scrap from the EU accounted for around 22 million tons (BIR, 2020). Yet, the apparent domestic supply of steel scrap accounting for the steel scrap used in Europe (87.5 million tons) remains significantly positive which demonstrates **that there is no secondary raw materials shortage in Europe.**

Free, fair and sustainable trade is therefore instrumental in achieving a truly circular economy, preserving the environment and protecting human health – at both global and EU level. Restricting exports of commodity-grade metal scrap classified as waste would be utterly counter-productive to achieve Europe's new Circular Economy Action Plan and will substantially undermine the competitiveness of Europe's metal recycling industry. International trade of commodity-grade metal scrap is not only necessary to cope with the imbalance between supply and demand, but also to avoid littering related problems – as it is currently the case for other materials. Should export restrictions, rooted in the revision of the Waste Shipment Regulation, affect the international trade of recycled metals - classified as waste, this will result in far-reaching negative impacts including:

- ✓ Decreasing the value of metal scrap which, in turn, will affect collection and recycling rates as well as the ability of recycling companies to invest and scale up capacities, with a real risk of fueling the landfilling of artificially depreciated assets;
- ✓ Hampering circular value chains at a European and global level which reduce greenhouse gas emissions thanks to recycled materials lower carbon footprint;
- ✓ Lead to the destruction of local jobs, in SMEs and large operators spread across Europe, for which unhampered access to international markets is essential to balance supply and demand and remain competitive.

2. Rewarding metal recycling environmental benefits

As also highlighted in [EuRIC Metal Recycling Factsheet \(2020\)](#), metal recycling brings substantial environmental benefits. These benefits include:

- ✓ Using steel scrap in the production process reduces CO₂ emissions by 58%;
- ✓ Recycling steel saves 72% of the energy needed for primary production (i.e., 4,697 kWh per ton);
- ✓ Recycling one ton of steel saves 1.4 tons of iron ore, 0.8 tons of coal, 0.3 tons of limestone and additives, and 1.67 tons of CO₂;
- ✓ In 2018, 157 million tons of CO₂ were saved in the EU by recycling 94 million tons of scrap, an equivalent amount to all automobiles circulating in France, Great Britain and Belgium;
- ✓ Using recycled steel to make new steel reduces air pollution by 86%, water use by 40%, and water pollution by 76%.

Metal recycling environmental benefits, in terms of resource, GHG emission and energy savings, are not internalized by market prices. To level the playing field with virgin materials and boost circular metal value chains would require substitution of primary raw materials with raw materials coming from recycling in production processes, as much as technically and economically feasible. This however will not be possible without suitable incentives which besides rewarding the above referred benefits will also help to:

- ✓ Pull the demand for recycled metal;
- ✓ Boost investments in new sorting, processing and production technologies and;
- ✓ Achieve or exceed EU-wide recycling targets.

Such incentives which would bring the EU a step closer to achieving the targets of the New CEAP and EU Green Deal, are indicative since they tackle different market failures and should support the entire circular metals value chain to boost the metals sector in Europe.

- ✓ **Mandatory recycled content:** could increase demand for recycled materials and as a consequence scale up low-carbon circular metal value chains as well as increase investments in R&D²³;
- ✓ **Circular VAT:** VAT promoting circular activities would be a powerful tool both to reward in prices the benefits of products made of recycled materials and to boost consumers' sustainable choices
- ✓ **Carbon border adjustment:** would ensure that the price of imports reflect more accurately their carbon content;
- ✓ **Label and standards:** for example, labels that document the proportion of recycled materials in a product, will ensure that properly documented use of scrap metals can be reported, and used to pull the demand for recycled materials⁴⁵;
- ✓ **Credits for End Use of Recycled Metals:** would allow those who use a higher proportion of secondary materials to generate credits and then sell them to the end users of primary material. This would lead to an increase in scrap demand;
- ✓ **Credits for End Use of Recycled Metals linked to the EU-ETS:** this would incentivize recycling by integrating recycling-related CO₂ avoided emissions into the allowance of EU ETS emission quotas allocated to the steel or aluminium industry;
- ✓ **Scrap subsidies:** would be defined as conditional transfers of money from governments to enterprises. In the present cases it could be conditioned by the intake of recycled material by scrap downstream users;
- ✓ **R&D subsidies:** would result in the use of more sophisticated sorting and processing technologies and hence in the creation of a higher quality secondary raw material.

3. Increase the uptake of commodity-grade metal scrap in metal production

Increasing the use of metals coming from recycling is crucial and could help the European Union to come a step closer at achieving its ambitious but necessary set of policy initiatives that have already been or are yet to be published in the years to come. This is even more relevant considering Europe's shortage of natural resources such as iron ore, aluminium, copper etc., and its import dependency on these same materials. Increasing the use of metals coming from recycling will not only help the EU to become more circular and independent in the near future but will also reduce the generation of GHG – and in particular of CO₂ - through mining and shipping related activities. Research has shown that at EU level available steel scrap for example, **could cover a remarkable 85% of the EU's steel demand by 2050⁶**. Due to Europe's reliance on iron ore and failure at incentivizing the use of steel scrap, the above percentage is however unlikely to be reached. By taking into consideration that in the EU the current intake of steel scrap is at best 55% of crude steel production⁷, it can be deduced that scrap metals are under-utilized⁸. **This is why scrap use is currently largely dependent on the demand of the importing countries such as Turkey for steel and China for copper and aluminium, just to name a few.**

Although the demand of secondary raw materials in metal production seems to be static in the EU, this could rapidly change in the near future. This has been proven to be possible by the United States which not only showed an increase in the share of electric arc furnace (EAF) in steelmaking (around 47% during the last

² FEDEREC (2020), Mesures de relance économique des entreprises du recyclage dans le contexte de crise sanitaire COVID-19

³ EuRIC (2019), Top 5 priorities of the recycling Industry for the period 2019-2024. Brochure. Accessed at: <https://www.euric-aisbl.eu/position-papers>

⁴ Pothen F., Growitsch C., Engelhardt J., Reif C., Brock L.V. (2020), External Costs and Fair Competition in the Global Value Chains of Steelmaking, Fraunhofer-Institute for Microstructure of Materials and Systems IMWS Center for Economics of Materials CEM in Halle (Saale), report for the German Steel Recycling Association - Bundesvereinigung Deutscher Stahlrecycling- und Entsorgungsunternehmen e.V. (BDSV).

⁵ Hogg D., Sherrington C. (2012), Analysis of Tradable Recycling Credit Systems: Review of Existing Policies and Consideration of Potential Policy Mechanisms, report for EFR and EUROMETREC.

⁶ Material Economics (2018), The Circular Economy – A powerful force for climate action – transformative innovation for prosperous and low-carbon industry, report.

⁷ BIR (2020), World Steel Recycling in figures 2015-2019, Steel scrap – a raw material for steelmaking, 11th edition, Bureau of International Recycling.

⁸ [Scrap metals to remain underutilised despite availability and rising demand - Using aluminium and steel scrap could reduce emissions by up to 600 Mt each annually, 26 November 2020, Wood Mckenzie.](#)

15years) but they have also demonstrated that it is technically possible to produce, under certain conditions, high-quality steel grades (similar to blast oxygen furnace (BOF)) by using the electric arc furnace (EAF) route⁹.

	BOF	EAF
EU	93.8 (59.1%)	65.0 (40.9%)
Turkey	10.9 (32.2%)	22.9 (67.8%)
China	893.3 (89.6%)	103.2 (10.4%)
USA	26.6 (32.2%)	61.2 (67.8%)

Source: Production figures for 2019 (in Mio. t and share of total production in % - from BIR Ferrous Statistics).

How economic and policy framework conditions affect closed loop recycling of metal scrap

Unlike other materials, if properly sorted and processed, metal can be indefinitely recycled without being downcycled. European recyclers thanks to their long experience, in-depth knowledge and state-of the art techniques, sort and process metal scrap to meet industry specification and/or end-of-waste criteria. Further improved quality requires investments and come at a cost for the recycling industry which is currently not rewarded for the substantial environmental benefits that it brings to society.

However, current economic and policy framework conditions do not always make it easy, as they do not always enable the recovery of metal at a grade similar to the usage in the previous lifecycle of the material. **As a consequence, metal demand for specific applications does not equate to metal supply from recycling².**

Increasing the supply of high-quality recycled metal scrap, as also explain above, is technically feasible. New technologies, that are currently being tested or developed, could further improve metal waste recycling into high quality commodity-grade metal scrap. The lack of any incentives to reward metal recycling massive environmental benefits, in terms of greenhouse gas emissions savings and substitution of metal ores and concentrates, remains a major obstacle to increased circularity. **Therefore, framework conditions enabling to reward circular and climate efficient metals value chains and scale up circular capacities in Europe are quickly needed.**

EuRIC thus advocates for a holistic approach which is needed to foster circular metal value chains relying on the following three pillars:

1. **Ensuring free and fair trade of metal scrap** in order to ensure that supply, demand and prices remain driven as much as possible by commodity markets, which are global.
2. **Level the playing field with virgin raw materials** by rewarding metal recycling environmental benefits;
3. **Strengthen Europe's metal value chain** by better protecting Europe's steel and non-ferrous metals producers suffering from lasting uneven international competition through a more ambitious use of trade defense instruments whenever necessary and mechanisms to better price carbon intensity of primary raw materials and products imported in the EU.



EuRIC is the Confederation representing the interests of the European recycling industries at EU level. EuRIC, through its various Branches covering the vast majority of waste streams, brings together National Recycling / Resource Management Federations and Companies in lieu from more than 23 European countries active locally and globally.

EuRIC represents across Europe over:

- § 5,500+ companies generating an aggregated annual turnover of about 95 billion €, including large companies and SMEs, involved in the recycling and trade of various resource streams;
- § 300,000 local jobs which cannot be outsourced to non-EU countries;
- § Million tons of waste recycled per year (metals, paper, glass, plastics, WEEE, ELVs, tyres, textiles and beyond).

By turning wastes into resources, recycling is the link which reintroduces recycled materials into the value chains again and again. Recyclers play a key role in bridging resource efficiency, climate change policy and industrial transition.

For more information: www.euric-aisbl.eu

⁹ NUCOR (2019), 2019 Recycled Content of Nucor Steel Mill Products, Letter to NUCOR customers.