

JUNE 2020

Metals industry: Detailed proposals following the new Circular Economy Action Plan

Introduction

Circular Economy is one of the key elements of the European Green Deal requiring actions at political, industry and consumer level. The new Action Plan is essential to help secure Europe's sustainable supply of the raw materials required in higher volumes by their climate-neutrality and digitalisation ambition. The non-ferrous metals industry is already at the forefront of circular economy as metals are permanent materials which can be endlessly recycled.

Over 50% of base metals produced in Europe are already from recycled sources, compared with only 18% worldwide (Source: [IES Brussels, 2019](#)). Moreover, state-of-the-art European recyclers recover over 20 metals with high recycling efficiency from complex products like electronics waste, catalysts and batteries, including several critical raw materials.

Achieving a Circular Economy for metals will allow Europe to reinforce its strategic autonomy. In parallel, it will contribute to the European Green Deal by saving energy, mitigating environmental burden, reducing import dependency, increasing domestic supply of raw materials and addressing resource security for strategic value chains and industrial ecosystems. In addition, it will create jobs and economic growth in the EU.

This paper provides our sector's recommendations for the European Commission's [Circular Economy Action Plan](#). We encourage Europe to build on its recycling technology leadership for metals, increase collection and sorting efforts, secure the use of high-quality recycling operations, and hence improve the supply of metals and other strategic materials for its climate transition.

Our key recommendations for the Circular Economy Action Plan

Product Design: Encourage products' design for circularity and boost innovation to facilitate repair of products and recycling of metals that are contained in products, especially those that have high value, even in low quantities.

Chemicals Management: Promote risk-management and safe recycling of hazardous substances in a Circular Economy. Ensure coherence between circularity and chemicals objectives.

Waste: Improve the flow of EoL products and metals containing waste to EU high-quality recyclers, through improvements to collection, dismantling and sorting infrastructure/technologies and streamline waste shipments legislation.

Global Trade: Address challenges from the global recycling market, including the leakage of European scrap without a guarantee of high-quality recycling and impacts of China waste ban.

Climate 2050 Strategy: Improve metals circularity across existing and new applications, to lower the carbon footprint though the whole life cycle and increase Europe's domestic raw materials supply for low-carbon technologies.

1



Product Design

Sustainable Product Policy Framework

The EU Product Policy Framework encompasses many elements and needs a careful evaluation on how to best address sustainability and circularity aspects of products without expanding but rather streamlining and optimising the legislation, methodologies and other tools (i.e. labelling) already in place.

The use of life cycle assessment to evaluate the environmental performance of products helps to avoid making product choices based on single indicators or parts of the lifecycle. We believe that policy has a role to play in driving improvement in the lifecycle performance of products, as long as the method can consistently account for the contribution of products throughout all lifecycle stages to a greener and more circular economy. In that respect, the Environmental Footprint (EF) methodology integrates data quality requirements and rules that improve consistency of life cycle assessment. However, the shortcomings of the methodology (e.g. toxicity, ecotoxicity and resource use) need to be further addressed before it can be integrated in selected product policy initiatives.

A thorough strategic reflection is needed especially on how to align the Environmental Footprint (EF) methodology with the other EU's methods and initiatives for measuring the environmental performance of products and associated green claims. Elements of the EF methodology could potentially be integrated in the existing framework. An analysis of policies and tools, including Ecodesign Directive, Ecolabel or Green Public Procurement (GPP) would be necessary.

How the Circular Economy Action Plan can address this challenge?

- Make a thorough evaluation of added value and appropriateness of the Environmental Footprint (EF) methodology elements, before adding it to selected product policy initiatives.
- Refine the EF methodology to revise its shortcomings (e.g. toxicity, ecotoxicity and resource use).
- Keep benchmarking and comparison of products voluntary and industry led. Environmental Footprint methodology should complement existing life cycle assessment tools after essential developments and corrections to the methodology are made.
- Adding to the environmental aspects, sustainable product policy should also take into account economic and social elements to present a coherent approach.

Ecodesign as a standard approach

Metals are present in many products falling under the Ecodesign Directive. One example are electronic devices that are getting increasingly complex. They contain precious and specialty metals in very small quantities but also the quantity of base metals is getting lower. Recovery of those materials depends on product design, collection, dismantling, sorting, and the quality of recycling operations underpinned by economic and technical viability.



Europe should keep taking measures to address the full lifecycle management of complex products already at the design stage, in order to increase materials recycling at the end of products' life. Value-chain platforms would be an effective way to improve this situation.

Recycling and durability of products are important elements that should be better addressed at the design stage, along with economic and technical viability, in order to anticipate for their repair and sustainable end-of-life treatment. The Ecodesign Directive has already evolved to provide generic requirements on material efficiency via series of standards on reusability, recyclability and recoverability of energy-related products¹.

In addition, Europe's research programme should also focus on developing new technologies and processes for recovery of low-volume specialty metals, taking into account the economic and technical feasibility.

How the Circular Economy Action Plan can address this challenge?

- Support the implementation of generic EU regulatory material efficiency requirements (i.e. repairability, recyclability) in product design, with an adequate approach to implementation for each product group.
- Focus the EU research agenda on developing new technologies and processes for recovery of less recycled metals.
- Create platforms to facilitate discussions between value chains' actors: product designers, manufacturers, refurbishers and recyclers.

Recycled content

Moving into the direction of 'recycled content' in a product would not be appropriate for non-ferrous metals. Primary and secondary metals have an identical quality and price, and they are often mixed together in metallurgical processes, due to technical reasons, before reaching the market. On a long-term basis, recycled content requirements on selected battery elements could be envisaged provided that strict conditions apply.

Non-ferrous metals already achieve high recycling efficiency and their demand is growing. Thus, the aim must be to improve recycling efficiency of metals-containing products while assuring that they are safe, performing and competitive.

How the Circular Economy Action Plan can address this challenge?

- Focus on promoting permanent materials concept ensuring that metals-bearing products are collected, sorted and recycled effectively using the best available techniques, at their end-of-life (multiple recycling as referred to in the Waste Framework Directive).
- Consider the role of multiple recycling as the preferred waste management option in the waste hierarchy.

¹ EN 45555:2019 'General methods for assessing the recyclability and recoverability of energy-related products' | EN 45556:2019 'General method for assessing the proportion of reused components in energy-related products' | EN 45557: (in preparation) 'General method for assessing the proportion of recycled materials content in energy-related products' | EN 45558:2019 'General method to declare the use of critical raw materials in energy-related products' | EN 45559:2019 'Methods for providing information relating to material efficiency aspects of energy-related products'



Chemicals Management and Circular Economy

A growing number of metals and minerals required for Europe's economy are regulated under EU chemicals legislation (REACH and CLP) due to their hazardous properties. As the ultimate goal of the Circular Economy is to bring materials back to the loop, they should be carefully and safely managed during the whole life cycle.

Some hazardous metals are essential for applications in Europe's green technologies, e.g. solar panels, electric cars. Currently, EU institutions are calling for substitution of substances of very high concern (SVHC) and other hazardous chemicals. Most hazardous metals can however be safely managed across their lifecycle by controlling their exposure/emissions to human health and the environment. Substitution of hazardous substances should be pursued only when an alternative substance is available, fulfils the same technical function, is economically feasible and does not result in other negative sustainability impacts.

Metals recyclers are equipped to process a variety of complex input materials, including those containing hazardous substances. We have a high level of knowledge on material composition throughout the recycling process and we use best available techniques. Our recycling output is delivered against strict quality specifications. Recycled metals need to meet the same quality/purity requirements as primary metals, meaning that the same rules are to be applied for virgin and recycled materials, when it comes to protection of human health and environment.

The hazard classification (and SVHC status) of many of our metals and their unavoidable presence across different recycling streams means that decisions under REACH can be burdensome or disruptive to industrial processes, including recycling. Focus on a strict hazard-driven substitution of metals will have significant negative impact on recycling and will diminish the EU capacity to recycle complex materials as well as supply metals using its own sources. The production of many valuable and critical metals is dependent on production and use of carrier metals (e.g. lead used in precious metals refining), several of which are substances of concern.

In our view, these challenges can be solved by integrating different sustainability objectives (climate, chemical management, and circular economy) when considering different risk management options for substances targeted under EU chemicals policy and by recognizing that a functioning Circular Economy needs to acknowledge hazardous substances in certain applications (e.g. batteries) provided that they are safely managed and recycled.

How the Circular Economy Action Plan can address this challenge?

- Prioritise safe production, use and recycling of chemicals by using best available techniques to secure a true Circular Economy.
- Set a long-term framework for industry and policy makers to control chemicals exposure, including further collaboration on improving data on chemicals.
- Consider substitution of hazardous substances only when an alternative substance is available, fulfils the same technical function, is economically feasible and does not result in other negative sustainability impacts.

- Chemicals management shouldn't be hindered by rushed scrutiny under chemicals legislation and shall shift from the focus on hazard to focus on risk.
- Ensure coherence between chemicals, products and waste policies to maximise the value of metals extracted from EU waste and to encourage scenarios delivering best overall environmental outcome for full circularity.
- Create appropriate conditions to maintain industrial symbiosis.

Waste and Circular Economy

Enforcement and better implementation of the EU waste acquis

In 2018, the EU has approved an ambitious waste legislation package including the following pieces of legislation: Waste Framework Directive, Landfill Directive, Packaging and Packaging Waste Directive and WEEE/ELV/Batteries Directives. We are fully supporting the introduction of 'multiple recycling' definition, more accurate measures of the real recycling rates and landfill reduction, to name just a few issues. The new rules have a great potential to maintain Europe as the global front-runner in waste management and recycling. Timely and full implementation as well as enforcement of the new rules at national level are key to success.

How the Circular Economy Action Plan can address this challenge?

- Follow up on a national level to secure coherent implementation and enforcement of the waste legislation acquis.
- Reinforce the role of IMPEL, the European network for the implementation and enforcement of EU law.

Collection and sorting

The efficiency of Member States collection and sorting schemes varies widely across Europe, with much scope to improve both their efficiency and transparency. Without effective collection schemes across the EU, the recycling rates and efficiency cannot increase significantly, and the waste legislation has set some specific targets already for 2025 and beyond (i.e. 50% recycling target by 2025 and 60% by 2030 for aluminium under the Packaging & Packaging Waste Directive).

How the Circular Economy Action Plan can address this challenge?

- Introduce separate collection of waste streams at their source, and waste-stream specific collection targets. For some waste streams, this should be complemented by quality standards for the pre- and end-processing steps.
- Improve dismantling before shredding and sorting within the overall value chain to allow for maximum quality and quantity of material recovered (i.e. metal scrap).

- Enhance transparency and ensure a level playing field among various materials across the entire value chain, throughout collection to final material recycling operations.

Global level playing field conditions

The Circular Economy approach should reinforce free and fair trade of raw materials and waste. To this end, level playing field conditions must be established for the treatment of waste and valuable materials embedded in products. If this is not the case, the valuable part of EU’s waste can be exported, legally or illegally, with no guarantee of quality treatment, no efficient recovery of materials but above all no value creation in Europe meaning no possibility to close the material loop.

The EU should facilitate waste flow to European quality recycling units, whether intra-EU or imported into Europe. To this end, the non-ferrous metals industry supports the development of a mandatory EU certification scheme applicable to some waste streams (e.g. e-waste). This would help to establish global competition on an equal footing, by requiring that secondary raw materials are treated everywhere in the EU according to the same high-quality and environmental standards but in the same time they may only be exported, if really needed, outside of the EU if a final processor is duly certified against such EU standards.

We advocate for Europe to establish a mandatory certification scheme for recyclers of electronics waste to guarantee efficient material recovery and environmental protection. As a key tool we recognise CENELEC standard EN50625 Collection, logistics & treatment requirements for WEEE and related Technical Specifications, i.e. TS50625-5 for the end-processing of WEEE fractions- copper and precious metals.

How Circular Economy Action Plan can address this challenge?

- Include provisions for establishing a mandatory EU certification scheme applicable to some waste streams (e.g. WEEE), in order to provide the required framework for quality recycling.
- Make EN50625 and Technical Specifications on WEEE collection, logistic and treatment legally binding under the WEEE Directive.

Waste shipments

The upcoming Waste Shipments Regulation review should reduce the red tape for hazardous waste shipments within Europe and imports into Europe. Currently, it can take several months for a planned intra-EU shipment to receive approval from all concerned authorities, and over a year if the waste comes from outside Europe. Shipments are further delayed by a lack of harmonised definitions across Member States regarding classification of status as waste or by-products and characteristics of waste as hazardous or non-hazardous.



In addition to the above, there is no centralised electronic system in place which facilitates illegal shipment of waste. Combined with insufficient controls at the borders, it leads to a situation where valuable materials leave the EU without any guarantee of quality recycling.

Furthermore, issues with shipments of waste via maritime should also be taken into account. Transit through multiple ports without unloading has become a big administrative burden because of complex procedures in Member States. As there is no discharge of waste until the arrival to the port of final destination, Member States authorities in the transit countries should give a general tacit consent to the shipment of waste designated for recycling.

How the Circular Economy Action Plan can address this challenge?

- Introduce harmonisation of classification of ‘waste’ vs. ‘by-products’ and ‘hazardous’ vs. ‘non-hazardous’ waste.
- Introduce a fast-track notification procedure for intra-EU waste shipments to pre-consented facilities.
- Define the content of ‘broadly equivalent conditions’ for treatment of waste exported outside the EU for recycling.
- Prevent illegal shipments of waste to developing countries that lack the capacity for safe processing of material, by strengthening controls and clear rules at the Member States and EU-external borders.
- Lower the administrative burden for intra-EU waste shipments and imports by implementing the Electronic Data Interexchange (EDI) system to better monitor waste flows.
- Use upcoming policy reviews to bring in concrete actions and improvements in Waste Shipment Regulation, Batteries Directive and End-of-Life Vehicles Directive.
- Continue to clamp down on illegal exports, including capacity-building at Member State level.

End-of-Waste and by-products criteria

A well-functioning market for secondary raw materials requires harmonisation of national approaches on the end-of-waste (EoW) and by-products criteria.

Metals have EoW criteria available for aluminium and copper² but their uptake is really minimal. Moreover, differences in application of rules depend largely on the national interpretation and result in the fact that recyclers very often receive miscategorised End-of-Waste metal scrap of low quality. In addition to that, insufficient controls of waste and EoW materials shipments, means that the objective behind the EoW, to foster valorisation of secondary raw materials, is jeopardised. Hence, it is non-ferrous metals industry’s view that there is no need of introducing more EU End-of-Waste criteria for metals in the future, unless work is done on their implementation and relevance.

Over the last decades, our sector developed strong industrial symbiosis in the non-ferrous metals supply chains and installations. Doing so, residues from one process serve an input material to another process in the value chain. However,

² Council Regulation (EU) N° 333/2011 – iron, steel and aluminium scrap and Commission Regulation (EU) N° 715/2013 – copper scrap



our practical experience shows that achieving industrial symbiosis encounters some hurdles, e.g. complexity of the process to obtain by-products status, cumbersome policy requirements, divergent interpretations (waste/by-products) between Member States that translate to disrupting shipments to high-quality recyclers, causing delays and unpredictability of shipments.

How the Circular Economy Action Plan can address this challenge?

- Introduce consistent practices at Member States level both for End-of-Waste and by-products.
- Introduce trade codes for EoW materials to allow the possibility to trace its flows and create reliable statistics.
- Increase controls intra- and extra-EU to verify declared quality under the EoW status.

Spent batteries and End-of-Life vehicles

Our sector sees a high potential to boost recycling rates for specific metals-containing waste streams in the upcoming reviews of the Batteries Directive and End-of-Life Vehicles (ELV) Directive. It includes improving collection rates for portable batteries and preventing undocumented exports of End-of-Life vehicles.

How the Circular Economy Action Plan can address this challenge?

- Encourage Member States to advance and improve their collection and sorting infrastructure (e.g. for portable batteries).
- Make sure that batteries removed from any type of equipment (e.g. WEEE, ELVs including e-ELVs) are subject to the Battery Directive.
- Address the ELVs that are not accounted for, including the shipment of used vehicles suspected to be ELV, by better statistics and reporting in Member States.
- Make sure that the upcoming ELV Directive review focuses on the end-of-life stage and promotes reuse, recovery and recycling of materials, maintaining Directive’s goal to limit the generation of waste.
- Shift from ‘full shredding’ of cars to a recycling practice that dismantles and treats more components separately.

Construction and demolition waste

Construction sector is a big market for metals and it keeps them in use for a long time. Construction and demolition waste represent about 30% of waste produced in Europe. Hence, having legislation promoting good practices for this waste stream is essential. Unfortunately, in the current waste Framework Directive (2018/851) there is no re-use and recycling target for construction and demolition waste but only an overall recovery target. The problem is that when only recovery targets are set, waste used for backfilling, and not re-used or recycled further, can also be taken into account by Member States to reach their target equally to waste that is actually re-used or recycled such as metal scrap. The overall recovery target is not supporting the circular economy as much as it could and it is unfair to metals. We hope that this could be



solved via the existing provision in the Directive that requires the European Commission to consider setting re-use and recycling targets by the end of 2024.

How the Circular Economy Action Plan can address this challenge?

- Introduce re-use and recycling targets for the whole construction and demolition waste flow on top of the present recovery target.

Final slags as quality raw materials

The ferrous and non-ferrous metals industry produces large quantities of final slags. They are co-produced out of the metals pyrometallurgical refining and recycling processes. Final slags can be used in construction sector in various applications, for example road, embankments, concrete and asphalt applications, clinker production or mineral addition to blended cement.

In times where natural aggregates are becoming scarce, the successful application of final slags as construction material has a big potential for saving natural resources, but also reducing environmental emissions as well as energy use and land use. In our view, the use of final slags can be an easily available solution for boosting the circularity of the construction sector that is targeted by the new Circular Economy Action Plan.

How the Circular Economy Action Plan can address this challenge?

- Create favourable market conditions for by-products (e.g. final slags) contributing to Europe’s climate and circularity goals.

Global Trade and Circular Economy

The Circular Economy should stimulate free and fair trade of all materials in a global market. Europe is a net-exporter of metals scrap, with 20% of scrap aluminium and 30% of scrap copper shipped to other countries, as well as at least 15% of electronics waste and an unknown quantity of vehicles. The global metals scrap market has been further impacted by China’s waste ban in recent years.

Our main concern remains that Europe has no guarantee that its exported scrap (and end-of-life products) is recycled to adequate recycling performance as well as environmental, health and safety (EHS) standards – resulting in a likely loss of material and harm to third country communities. We can tackle this situation by continuing to investigate a robust but workable system for validating that Europe’s waste exports are recycled under equivalent conditions (i.e. by making EN 50625 standard for WEEE collection, logistic and treatment legally binding via the WEEE Directive).



We must also do a lot more to clamp down on dubious and illegal waste exports at EU and Member States level, notably for electronics, end-of-life (ELV) vehicles and other high-value products containing metals.

Furthermore, we observe that the Basel Convention is slowing down the global movement of waste due to the notification procedure where the transit countries have the power to block (or delay) recycling contracts by not approving or by imposing specific national requirements (e.g. national waste agents checks, translations, etc.).

How the Circular Economy Action Plan can address this challenge?

- Ensure a global level playing field for European high-quality recyclers, through further actions to better control waste exports.
- Continue to clamp down on illegal exports, including capacity-building at Member States level.
- Take stock of global developments including China waste imports ban and assess how Europe can act to stimulate the flows of its high-value waste to domestic recyclers.

Climate 2050 Strategy and Circular Economy

A European Circular Economy for metals will offer major contributions to the EU's 2050 climate-neutral strategy:

- **Raw materials supply:** Higher metals recycling volumes will help Europe to improve its domestic supply of raw materials for low-carbon technologies including batteries, clean mobility, wind turbines and solar panels. For example, the cobalt contained in the world's mobile phones would be enough to power 1.5 million electric vehicle batteries, but only 10% of phones are properly recycled at their End-of-Life.
- **Improved carbon footprint and resource efficiency:** Higher metals recycling volumes will help Europe to lower the carbon footprint of metals produced (in complement to existing levels of primary production). Metals recycling requires significantly less energy on a lifecycle basis than extraction and primary production operations. For example, Europe's aluminium recycling volumes are projected to rise from 4.5 million tonnes in 2015 to 9 million tonnes in 2050, avoiding 800-1500 million tonnes of CO₂ (compared with equivalent primary production). However, it should be noted that recycling of some metals from complex waste fractions could incur a higher energy requirement due to low metal concentrations and/or small volumes.
- **Industrial symbiosis:** Final slags from non-ferrous metals industries can be used as alternative raw materials to replace natural sources and reduce CO₂ emissions in other sectors e.g. clinker, cement and concrete.

We consider that the European Commission should make it a strategic priority to use the Circular Economy approach for improving domestic raw materials supply and lowering lifecycle greenhouse gas emissions.

We also note that by 2030, the metals scrap market will change significantly due to the influx of End-of-Life materials derived from low-carbon technologies (electric vehicle batteries, solar panels, wind turbines, etc.). The EU must act now

10



to encourage investments into the required take back infrastructure and recycling capacity for these applications, ahead of increasing global competition.

How the Circular Economy Action Plan can address this challenge?

- Ensure that the Circular Economy contributes fully to Europe’s 2050 climate-neutral strategy, including a focus on increasing metals recycling rates to:
 - Improve Europe’s domestic supply of raw materials for its low-carbon value chains;
 - Mitigate and avoid extra greenhouse gas emissions from Europe’s rising metals demand.
- Support pre-emptive industrial investments into Europe’s take back infrastructure and recycling capacity for low-carbon technologies, where significant end-of-life volumes will only be available from 2030 onwards (e.g. electric vehicle batteries, solar panels)

Other recommendations

Innovation and investment into Circular Economy

The European Commission has greatly improved circular financing and investment opportunities. Over the period 2016 – 2020 the Commission has stepped up efforts totalling more than 10 billion EUR in public funding³ to the circular economy transition. Over 35 projects have been funded in the priority area of recycling and material chain optimisation under the EIT Raw Materials, a KIC Innovation Platform that brings together raw materials value chains to develop raw materials as a European strength.

However, Circular Economy investments depend on two factors: companies and investors decisions. This aspect is reflected in the wider context under the European Commission’s Sustainable Finance initiative. It will be equally important for financing and investment to be available for lowering the carbon footprint of metals and other materials. Essential components of the value chain, such as recycling, should be adequately taken into account. Research and innovation funding should also allow financing operational expenditures when breakthrough technologies are deployed.

How the Circular Economy Action Plan can address this challenge?

- Financing should tackle the specific bottlenecks of metals loop, reflecting on collection and sorting but also lowering the carbon footprint of metal products.

³ Source: European Commission – Fact Sheet – Circular Economy Package Report: Questions and Answers (http://europa.eu/rapid/press-release_MEMO-19-1481_en.htm)



Monitoring the Circular Economy progress

The existing Circular Economy Monitoring Framework with 10 indicators tries to measure EU and Member States progress towards the circularity based on the data reported to Eurostat. In our view, this system doesn't portray the real situation as some of the indicators hinder recycling of critical elements in complex products (i.e. in EEE). The fact that those indicators are weight-based doesn't allow for an effective tracking of small volume, but critical, metals. Moreover, some Eurostat data, especially the one on recycling rates is confusing as in the past years Member States didn't apply a uniform calculation methodology to calculate the recycling rates. To that end, some of the reported numbers do not reflect the physical closure of the metals loop meaning that they are based on the input to recycling operations and not to the final output of (pure) metals/materials from the final recycling process. Only the updated Waste Framework Directive (2018) has introduced more accurate measures for recycling targets but it will still take time before the figures will be comparable.

How the Circular Economy Action Plan can address this challenge?

- Make a thorough analysis, before expanding the current list of the Circular Economy Monitoring Framework, on how meaningful indicators can be reached in all areas.
- Ensure the enforcement of the new methodology for recycling rates set in the Waste Framework Directive.

ABOUT EUROMETAUX

Eurometaux is the decisive voice of non-ferrous metals producers and recyclers in Europe. With an annual turnover of €120bn, our members represent an essential industry for European society that businesses in almost every sector depend on. Together, we are leading Europe towards a more circular future through the endlessly recyclable potential of metals.

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