EUROMETAUX
EUROPEAN ASSOCIATION OF METALS

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Boosting Recycling to support access to raw material and resource efficiency

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1. Executive Summary

Wastes are resources which should not be wasted!
Metals are essential to build a sustainable society today and tomorrow! Recycling is a highly efficient way of reintroducing valuable materials into the economy and by doing so of contributing to address key strategic objectives, namely resource efficiency and access to raw materials, while lowering environmental impacts and energy intensity of materials supply.

The recycling value chain can be broken down into three separate, but highly interdependent, steps: collection, preparation for material recovery and material recovery.

From collection to end processing, recycling faces a number of challenges that should be addressed in a complementary fashion so as to ensure the measures deliver efficiently. In substance the challenges are listed here below with some of the measures proposed to address them:

1. Recyclability of finished products ⟶ inclusion of recyclability criteria in product policies and enhanced understanding of value chains' challenges and interactions;
2. Suboptimal end-of-life collection schemes ⟶ separate collection at source; quality targets for all steps of value chain; clearer objectives and transparency for collection schemes including EPR
3. Landfilling of post-consumer goods ⟶ diversion of waste from landfill – progressive ban of post-consumer goods from landfilling as aspirational target provided it is supported by measures to support quality recycling
4. Shortage of secondary raw material due to exports to non-European countries partly due to illegal or dubious shipments of waste ⟶ stricter enforcement of Waste Shipment Regulation including link with certification of recycling facilities
5. Lack of level playing field worldwide and quality recycling ⟶ mandatory certification scheme of recycling facilities for given waste streams
6. Technological and economic hurdles to recycle increasingly complex products ⟶ more support to innovation, including the EIP on RM that covers both technological and non-technological measures
7. Transparency across the value chain and better enforcement of legislation⟶ enhanced transparency across the value chain

2. Introduction

Metals are essential to build a sustainable society today and tomorrow! This leads to an increasing demand for raw materials and has created two major challenges for the EU, namely secure cost-efficient access to raw materials and increase resource efficiency. Recycling is a major element of this strategy. Europe is the leading recycling region and could increase its recycling capacity, provided certain conditions are in place, including secured access to the 2ndary RM.

Thanks to their unique properties, metals are essential to building a sustainable future with regard for example to energy, mobility and communications. Unlike other raw materials, such as energy or food, metals are not consumed. Since they do not lose their intrinsic properties during recycling, metals can be used and re-used, again and again. In this sense metals are a material with permanent characteristics that can be qualified as a permanently available resource.

Recycling is a highly efficient way of reintroducing valuable materials into the economy and by doing so of contributing to address key strategic objectives, namely resource efficiency and access to raw materials, while lowering environmental impacts and energy intensity of materials supply.

Waste are resources which should not be wasted! Europe is a worldwide leader in recycling but more could be done to enhance recycling and by doing this create jobs and growth in Europe. European policies should therefore primarily aim at ensuring that as much recyclable waste and end-of-life products as possible are recycled in efficient conditions to recover as much valuable material as economically and technically possible.

But recycling faces different challenges that need to be addressed through complementary measures so as to ensure that more waste and end-of-life products are recycled in efficient conditions in Europe and elsewhere.

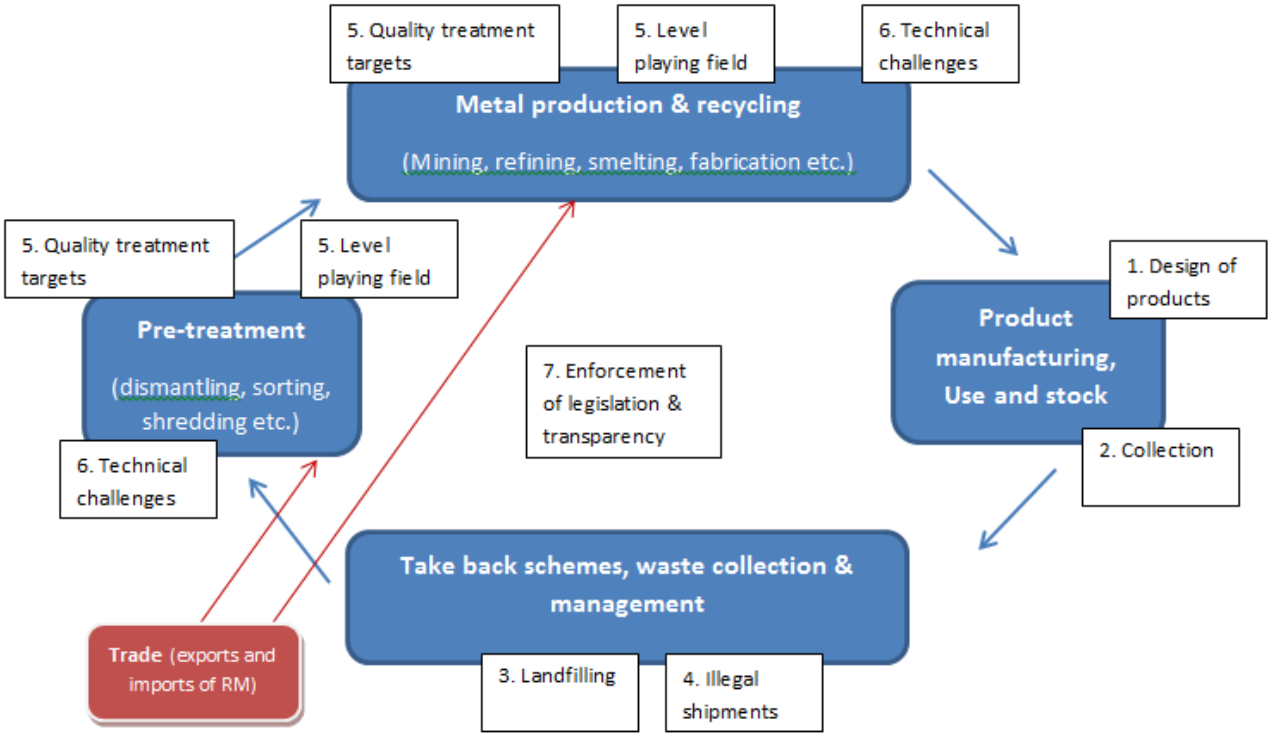
3. The Recycling Value chain

The Waste Framework Directive defines 'recycling' in a broad sense leaving room for interpretation and hence non-harmonised implementation across the different MS. The definition of "recycling" is interpreted as "collection" or "preparation for material recovery" but not as "material recovery" which means that recycling rates are in most cases collection rates or pre-processing rates (preparation for material recovery).

The recycling value chain can be broken down into three separate, but highly interdependent, steps: collection, preparation for material recovery and material recovery. Collection and preparation for material recovery are indispensable but they do not guarantee that the material will be recovered in efficient and sound environmental conditions. We believe that the Waste Framework Directive (WFD) should include the following definition of "recycling value chain": "Recycling value chain means *the sequence of operation leading to the recovery of materials from waste. These operations include (1) collection which is the beginning of any waste management process, (2) preparation for material recovery which covers manual and/or mechanical operations & sorting and (3) material recovery which consists in chemical, physical or metallurgical operations, but does not include incineration for energy recovery and the reprocessing into materials that are to be used as fuels.*
The recycling value chain ends when the waste is reprocessed into products or material which do not require any further processing whether for the original or other purposes."

4. Recycling challenges

From collection to end processing, recycling faces a number of challenges that are described here under.



1. **Recyclability of finished products:** Recycling must be both economically and technically feasible. Both aspects need to be addressed as from the design stage. The eco-design directive does so far not sufficiently consider recyclability among the criteria used. In addition, a better understanding of recycling requirements and processing chains would help a better recyclability design. Finally, there is insufficient knowledge of the bill of materials which decrease efficiency at pre-treatment.

2. **Suboptimal end-of-life collection schemes:** Collection is the first step of the recycling value chain. If collection is not performed efficiently the recycling rate cannot increase significantly. It is an essential, although not sufficient step! The efficiency of the collection schemes vary widely across Europe. There is a clear need to increase the efficiency and transparency of such schemes. There is also a link between collection effectiveness and business models applied for products and services.

3. **Landfilling of post-consumer goods:** Too many end-of-life products which contain valuable materials, sometimes even critical, are landfilled or incinerated. This is a wastage of our urban mine!

4. **Shortage of secondary raw material due to exports to non-European countries partly due to illegal or dubious shipments of waste :** Due to the high intrinsic value of certain scrap and the embedded energy content, some non-European countries buy at high prices waste and end-of-life products while recycling efficiency and environmental performance are often not equivalent to European standards. Externalisation of social and environmental costs (e.g. for coping with

hazardous substances) leads to unfair cost advantages. Hence, in some cases, valuable materials are exported illegally with an uncertain quality of recycling of the exported waste. As highlighted in the proposed amendments to the Waste Shipment Regulation, "The export bans for hazardous waste and waste for disposal under the Waste Shipment Regulation (WSR) are often circumvented. Exports of hazardous waste are often labelled as second-hand goods and waste for disposal as waste going to recovery. The overall non-compliance rate can be estimated to be 25%. In 2011 a study concluded that if only 1% of all waste shipments were illegal, the total tonnage of illegal waste shipments would amount to 2,8 million tonnes per year. In the framework of the Raw Materials Initiative, the Council asked the Commission to take measures to strengthen EU requirements on inspections carried out under the WSR."

5. **Lack of level playing field worldwide and quality recycling:** The ultimate objective is to avoid losing valuable metals and causing harm to environment and health. Instead, materials need to be recovered effectively and environmentally sound in order to make these available for new use in products. Recycling must meet quality criteria and these need to apply across the recycling value chain in Europe or elsewhere.

6. **Technological and economic hurdles to recycle increasingly complex products:** The trend to reduce the amount of (valuable) material used in end products can be problematic in terms of economic viability of the recycling process. In addition, an ever increasing variety of element combinations in components and products cause technical challenges and require the development of recycling new processes.

7. **Transparency across the value chain and better enforcement of legislation** : there is in many cases a lack of transparency which goes beyond the confidentiality issues related to any business. This comprises volumes of available EoL products, composition of products and components, flows of products and materials from the collection points throughout the recycling chain, performance of recycling operations, outputs and mass balances of treatment operations at all levels.

5. How to address the recycling Challenges

1. Recyclability of finished products

Eurometaux supports the inclusion of recyclability criteria in product policies such as the eco-design directive while avoiding a recycled content approach for metals (as metals can be recycled again and again without losing their properties, the objective should be to ensure that they are recycled at the end-of-life not to force a given recycled content in given products).

Enhanced understanding of value chains' challenges & interactions through a structured dialogue between partners along the value chain.

2. Suboptimal end-of-life collection schemes

Eurometaux supports different measures to enhance collection:

- separate collection at source (separately from each other) by 2015
- quality targets covering all steps of the recycling value chain – the target for collection should be expressed by weight or percentage ! The target for collection shall be expressed by percentage of the weight or per unit and per category as relevant; the target for preparation for recovery should be expressed per weight or through a standard if relevant and the target for

material recovery should be expressed in a process quality standard (environment, health and efficiency criteria).
- Raise public awareness of importance of RM, collection and illegal streams/channels

Eurometaux also believes that EPR schemes should in some cases be re-organised and meet a certain number of requirements to ensure that the value chain is balanced and oriented towards quality from collection to end processing. EM supports the following principles with regard to extended producer responsibility schemes:

- Resource efficiency and access to RM should be among the objectives or principles against which EPR schemes work (not only cost, or legal targets). EPR should include quality standards from collection through preparation for recovery and finally material recovery. Special attention should be given to critical raw materials.
- Transparency must be enhanced across the entire value chain from collection though to material recovery.
- There should be shared responsibility of all actors from producers to collectors, treatment operators and end processors.

3. Landfilling of post-consumer goods

As recognised by the waste hierarchy, recycling is a preferred option to landfilling as it is a highly efficient way of reintroducing valuable materials into the economy.

European policies should aim at ensuring that as much recyclable waste as possible is diverted from landfill and recycled in efficient conditions to recover as much valuable material as economically and technically possible. A progressive landfill ban on post-consumer goods[1] can be an aspirational target for Europe, provided it is supported by complementary measures that ensure a quality recycling value chain from collection through preparation for recovery and finally material recovery.
Such a ban should be progressive to ensure its feasibility and effectiveness, notably in terms of building up capacity to treat the material. It should also take account of the economic and technical feasibility of recycling certain waste.

Industrial waste is a different type of waste which is in many cases residual waste that cannot be recycled or not allowed to be put on the market. Most non-ferrous companies strive to reduce as much as possible the amount of process waste landfilled either through improved or increased recycling or through increased use of materials in diverse applications. Under the present economic and technical conditions, industrial landfilling can however not be completely avoided.

4. Shortage of secondary raw material due to exports to non-European countries partly due to illegal shipments of waste

Eurometaux welcomes the two main amendments proposed by the Commission to the Waste Shipment Regulation (WSR) to fight against illegal shipments of waste, namely the introduction of requirements regarding inspection planning by MS and the reverse burden of proof by which MS can require evidence from suspected illegal waste exporters regarding the status of the material, the nature of the treatment foreseen and the conditions in which it will be treated.

[1] Post-consumer material.- Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the goods or service which can no longer be used for its intended purpose. This includes returns of material from the distribution chain (EC Guidelines for Making and Assessing Environmental Claims: http://ec.europa.eu/consumers/cons_safe/news/green/guidelines_en.pdf .

However, Eurometaux believes that a simple paper claiming compliance with Article 49 is not sufficient and hence suggests the setting up of a mandatory certification scheme of end processing/recycling facilities to ensure that secondary materials may only be exported if a final processor is duly identified and certified based on criteria related to environmental, health, governance conditions and process efficiency.

Eurometaux also supports improved and harmonised control of shipments at harbours to ensure effective enforcement of the Waste Shipment Regulation. To avoid "port hopping" harmonised practices should be enforced throughout Europe and more cooperation should take place among national Customs/enforcers.

As illegal shipments often take the form of disguised 2nd hand goods, Eurometaux supports the identification of second hand goods in customs declaration so as to facilitate targeted controls. And it supports the use of a risk matrix to focus controls on high risk shipments (depending on destination and shipment exporters)

5. Lack of level playing field worldwide

The EU recycling industry has the potential to develop still further provided that the right framework conditions are created. The challenges include improved access to secondary raw materials notably of end-of life products and a global level playing field to ensure that secondary materials exported legally or illegally are treated in quality environmental, health and efficiency conditions.

A mandatory certification scheme applicable to some waste streams would for those

- create more of a level playing field and hence support quality recycling and the competitiveness of quality practices
- Provide more security of supply of secondary raw materials and hence encourage investments in Europe
- Create jobs and growth thanks to increased recycling activities – capacity in Europe has already been extended for some recycling flows
- Facilitate controls at borders and therefore limit illegal exports of valuable materials
- Secure access to material for downstream industries and by doing so support their competitiveness in Europe
- Provide certainty to consumers & manufacturers that secondary materials in end-of-life products are recycled in sound environmental and efficiency conditions

The scheme would establish competition based on equal footing by requiring that secondary materials in some waste streams may only be exported if a final processor is duly identified and certified based on criteria related to environmental and health protection and process efficiency. The scheme would also provide a tool for customs to check shipments and hence to facilitate targeted controls.

The cost of the certification could be very limited or even negative compared to current status if the certification is recognised and hence can replace different audits requested by different parties. Certification would also be complementary to ISO or EMAS.

The benchmark should be applied both in the EU and outside the EU for any waste from the EU to be treated inside or outside the EU.

Eurometaux would like to propose testing the scheme for certain waste streams e.g. batteries and WEEEE. In fact there are already standards for WEEE and batteries developed by industry.

6. Technological hurdles to recycle increasingly complex products

More support to innovation is needed to address the technological hurdles. New technologies are needed to recycle increasingly complex products with increased yield and some multi-disciplinary research is desirable in this respect. Co-operation along the supply chain too!

The EIP on RM is most welcomed in this context both in support to technological and non-technological measures boosting access to raw materials and recycling.

7. Transparency and enforcement of legislation

Transparency must be enhanced across the value chain, and all flows should be better measured and monitored, across the entire recycling chain, from collection to preparation for material recovery and final material recovery. This would minimize leakages and contribute to better enforcement of existing collection and recovery/recycling obligations. An appropriate tool to measure and monitor the flows is tracing and tracking of end-of-life products such as WEEE, batteries and/or ELVs down to their final destination.

In this context, there is a need to enlarge our knowledge base on availability of primary and secondary raw materials and to develop material flows analysis

And of course, legislation must be enforced properly and in a harmonised way!

This position paper acknowledges the work and proposals made in fora such as the EIP-RM communication and SIP, the ERA-MIN roadmap or the UNEP resource panel (e.g. recent report on recycling opportunities and challenges). We see these as basis for our position, aiming to transfer these recommendations into a specific EU context with an industry anchored practical approach.

Eurometaux represents the European non-ferrous metals industry

- **The NF-metals industry is indispensable for modern society**. Thanks to their intrinsic properties – including durability and recyclability - non-ferrous metals are indispensable to meet essential societal needs and to build a low-carbon economy.
- **Non-ferrous metals contribute to the European - and global - creation of wealth and jobs**: they represent 2% of EU GDP and create **450,000 direct jobs and over 1 million indirect** jobs in Europe. Their use in high-tech and high added-value activities makes them very valuable to the EU's economy and competitiveness.
- **The NF-metals industry contributes to resource efficiency** by enhancing the in-use phase of products and also thanks to high recycling rates ranging between 30% and 95%, depending on the metals and their use. Primary and secondary raw materials are complementary, as secondary raw materials cannot on their own meet the growing needs of a sustainable economy.

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