

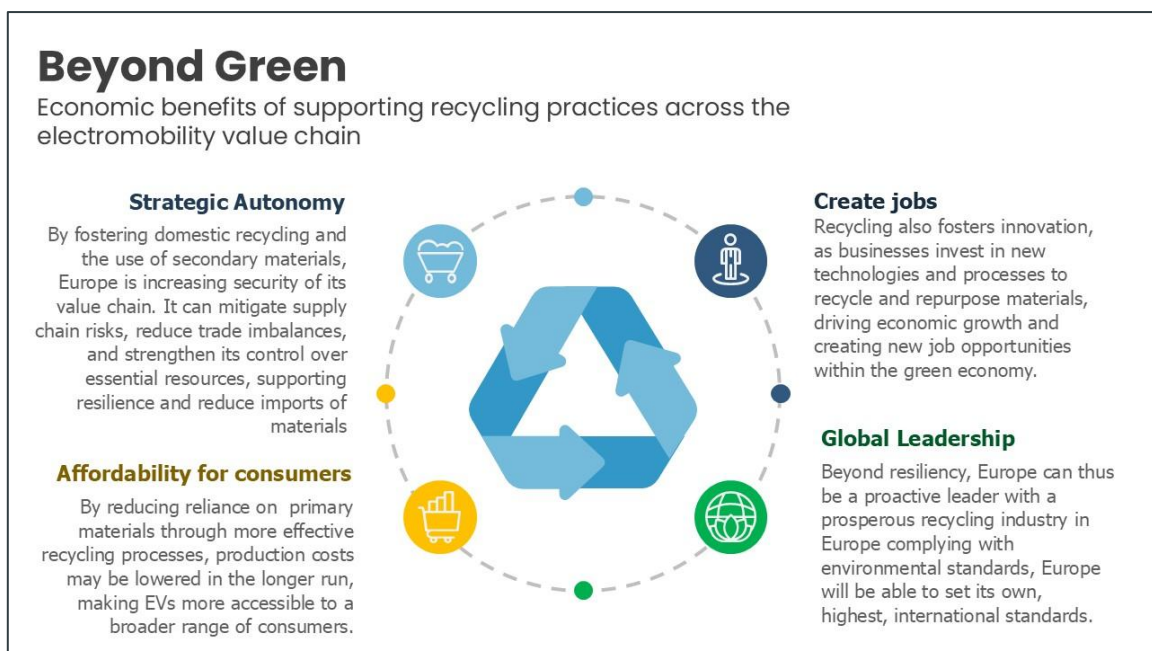
A strong European recycling ecosystem for electromobility

January 2025

Fostering a recycling ecosystem in the European electric transportation value chain is crucial for enhancing the region's strategic autonomy and for reaching its sustainability goals. Currently, Europe relies heavily on third-country producers for critical materials and components essential to the production of electromobility solutions and their infrastructures. By creating conditions for a strong recycling ecosystem within the e-mobility sectors, Europe can reduce this dependency, ensuring a more resilient and self-sufficient supply chain and reduce emissions associated with the use of primary materials. Providing conditions that enable a recycling value chain in the e-mobility ecosystem will not only help mitigate geopolitical risks but will also strengthen Europe's position in the global market.

As we support the ambitious recycling targets set in the Critical Raw Material Act, it is now key to enable European industry to reach them. With the right legislative framework, significant progress can be made. Indeed, with numerous legislative 'low-hanging fruits' up for grabs, the EU can support its local recyclers. The industry is at a crucial juncture as recycling is poised to ramp up and develop rapidly; it is essential that we seize this moment to establish effective frameworks and practices, ensuring that we get a head-start in global competition.

In this paper, we outline the importance of enhancing the recycling industry in Europe and set out a manual for policy makers to use the existing toolkit of legislation to drive forward such a recycling industry. We recognise recycling is only one element of the broader circularity ecosystem that Europe needs to build for a sustainable transport value chain, however this paper focuses solely on recycling.



Box 1/ Benefits of an electromobility value chain supported by recycling practices

Recycling in the electromobility value chain enhances Europe's strategic **autonomy** by reducing dependency on imported raw (or secondary) materials, particularly for batteries. By fostering domestic recycling and the use of secondary materials, Europe is increasing security of its value chain. It can mitigate supply chain risks, reduce trade imbalances, and strengthen its control over essential resources, supporting resilience and reduce imports of materials.

Recycling of batteries and material recovery from end-of-life vehicles support material efficiency and thus environmental **sustainability** by minimizing waste and reducing the need for raw material extraction. This can lead to substantial ecological benefits, including lower carbon footprints and less environmental degradation.

Promoting recycling in the e-mobility value chain can also significantly increase the **affordability** of clean vehicles. By reducing reliance on primary materials through more effective recycling processes, production costs may be lowered in the longer run, making EVs more accessible to a broader range of consumers.

Recycling also fosters **innovation**, as businesses invest in new technologies and processes to recycle and repurpose materials, driving economic growth and creating new job opportunities within the green economy. Beyond resiliency, Europe can thus be a proactive leader with a prosperous recycling industry in Europe complying with environmental standards, Europe will be able to set its own, highest, international standards.

Our proposal to leveraging existing regulation to create conditions enabling a recycling ecosystem

Regulatory stability is the bottom-line condition for enabling investments to create circular value chains in the electromobility ecosystem. Entrepreneurs and investors require a predictable and consistent regulatory environment to confidently commit resources to the development and expansion of circular practices in the electromobility industrial value chain. Safeguarding the clear, long-term policies already agreed by co-legislators will provide the necessary certainty for businesses to innovate and invest in sustainable production and recycling capacities in Europe. This is particularly true for the CO₂ Standards for cars and vans' 2035 zero-emission objective which needs to be maintained to guarantee that EU-based battery production is used in BEVs that will be sold to meet the zero-emission target by 2035.

A slowdown of the EV market as well as of the battery cells production in Europe creates high investment uncertainty for companies ready to invest into recycling on the continent. Feedstock uncertainty is furthermore increased when the shipment rules to destinations outside of the EU are not clear and not ambitiously implemented and controlled.

In the short term, we do not identify the need for new legislative acts but rather the need to effectively implement and enforce the toolkit of legislations already in the hands of European policy makers and to introduce clarifications or improvements where needed. The following suggestions thus focus on optimising and fully utilising existing legislations rather than creating new ones. Our aim is to ensure that the current regulatory framework effectively supports the development of a sustainable and competitive battery recycling industry within the EU. By making **targeted improvements, clarifications or by ambitious implementation**, we can leverage what is already in place to support European recyclers to reach our targets.

1. Battery Regulation

Secondary acts implementing the Battery Regulation's provisions on **recycling targets and recycled content** should acknowledge the current limitations in local recycling capacity, which may necessitate sourcing secondary materials from outside the EU in the short-term. To change this for the mid and long term, it is crucial to focus on developing dedicated local recycling capacity and processing industry within the EU to ensure sustainability and reduce reliance on external sources. EU legislation should incentivise the uptake of needed recycling technology as regulatory frameworks are key drivers for innovation and large-scale solutions. The calculation of the recycling efficiency and material recovery targets as well as of the recycled content (EU Batteries Regulation) are being currently defined in the delegated and implementing acts which need to set the right condition for the development of a competitive and prosperous batteries recycling industry in Europe. Innovation to new recycling solutions needs to be strengthened, and sourcing of secondary materials within Europe facilitated.

An important element of the Secondary acts implementing the Battery Regulation are the **'Equivalent conditions'**. It is essential and we call on the Commission to deliver in 2025 the definition of the criteria for the assessment of the 'equivalent conditions' for waste treatment outside the EU as identified in the Batteries Regulation and Waste Shipments Regulation. How Member States assess the fulfilment of equivalent conditions when such documentation is handed to them by the competent authority of destination where the treatment took place also needs to be clarified. The problem with the 'equivalent conditions' when there are no clear criteria for assessment, is that it needs to be "demonstrated that the requirements applied in the country of destination ensure a similar level of protection of human health and the environment" (Waste Shipments Regulation Article 56), which leaves room for interpretation and may be implemented differently from MS to MS.

2. List of Waste Legislation

Currently, the List of Waste (LoW) does not adequately **address the diverse chemistries of batteries**, lacks a consistent definition of battery black mass across EU countries, and results in varied shipment conditions and costs. This not only creates administrative burdens but also distorts the market in the battery recycling sector and suboptimal material recovery. Addressing these gaps through specific measures can streamline processes and enhance the recycling landscape across Europe.

A rapid formal **updating of the list of waste codes** and its uniform enforcement, including harmonised **transport conditions** is needed to significantly facilitate intra-EU shipments, establish equivalent recycling conditions both inside and outside the EU. Member States have a great opportunity to support potential EU recycling players in developing activities to capture battery material recovery value in Europe and prevent these materials from being shipped elsewhere. Addressing issues such as the definition of black mass and harmonizing transport conditions are critical steps that could greatly contribute to this goal.

In this context, the Platform for Electromobility welcomes the Commission's updated List of Waste proposal. Overall, the definition of the new waste codes is expected to improve clarity and will hopefully foster a homogenous use of the waste codes across Member States, which will contribute to clarify intra-EU shipment.

Introducing a **definition for black mass** is necessary to ensure that no waste material inadvertently becomes classified as a product. A harmonized definition will facilitate easier intra EU shipment of black mass, streamlining European recycling efforts and contributing to a more efficient European recycling industry. The recent Commission's updated List of Waste proposal classifies black mass as hazardous waste. We welcome this classification which needs to be rigorously and swiftly implemented across Europe to ensure uniformity and compliance with the latest standards.

Classifying black mass as hazardous waste is a significant step towards securing the feedstock of secondary raw materials in Europe as it will help prevent the export of critical minerals outside the Union to non-OECD countries. This is a crucial step forward to a circular economy but these important amendments to the LoW can only be effective if they are thoroughly implemented. The key role here is with Member State market surveillance authorities that need to do effective border controls to ensure that waste shipments and documents fully comply with this new delegated decision. In addition, the EU's anti-fraud service (OLAF) must be allocated sufficient resources to monitor, investigate, and prevent illegal exports to non-OECD countries.

3. Waste Shipment Regulation

To foster a competitive waste market, it is essential to ensure the successful **implementation** of the Waste Shipment Regulation (WSR). This includes the deployment of automated, digital authorisation requests from 2026 onward, which will simplify the handling of hazardous waste and significantly reduce the administrative burden on stakeholders involved in waste management and in inter-EU waste shipment.

4. End-of-Life Vehicle Regulation

The ELVR revision needs to effectively address the illegal export of used EVs and therefore prevent material leakage and further help build a recycling ecosystem. Additional measures are required to enable high-quality recycling of a larger array of materials, especially considering the increasing complexity of vehicles. Similarly to the Battery Regulation, the revision should be leveraged to incentivise the use of low-carbon materials and processes. While we support the introduction of targets for producers and public procurement provisions to increase the use of

low-carbon materials such as steel and plastics to drive ever more sustainable EVs, those targets should be accompanied with incentives for producers. Beyond the proposed regulation, we would also welcome incentives for consumers to further drive the market to ever more sustainable EVs.

5. Net-Zero Industry Act

By prioritising local manufacturing, we support NZIA provisions that **favour local bids** and tying EU and national grants to conditions that promote local labour usage. It could be associated to a label encouraging the use of recycled materials of European origin, including for critical materials (in particular for copper recovered from EV recycled engines which is critically exposed to supply risks).

6. Critical Raw Materials Act

It will be key to prioritise the selection of strategic projects under the CRMA in line with the benchmarks set out in the Act, with at least a quarter of selected projects in the recycling sector.

Conclusion

While we only focused here on recycling as one element of circularity, it is in general an **immense economic opportunity** for a consumer waste-heavy region like the EU, on which the continent could capitalise further by strengthening existing legislations, supportive business models and strong demand measures. Whilst a lot of laws and frameworks already exist, we also underline the need for a business case to scale recycling practices and materials, and a truly European recycling market to bring investment certainty.

Box 2/ Investment and Market incentives to support local recycling

Looking forward, **new policy initiatives and market incentives** to support local manufacturing will be instrumental in developing a resilient and sustainable e-mobility value chain. This can be achieved by:

By translating market incentives into consumer incentives, we can accelerate recycling practices and choices and thus drive the market. This can be done through tax breaks and rebates (e.g., offering tax incentives for best-in-class sustainable batteries in EVs), and Green procurements that prioritise best-in-class sustainable battery products or companies that are frontrunners in implementing the Batteries Regulation provisions.

A joint terminology and standards are at the core of scalability and transparency for market actors. In the case of steel, the quality of recycled steel is different for automotive (very high) compared to construction (low). Defining economy-wide quality standards - or a **recycling taxonomy** - for steel, aluminium and other products will greatly aid both recyclers and end users by creating a clear market.

Beyond legislation, **facilitating investment** in local battery manufacturing, recycling and material processing businesses is critical element of the puzzle for establishing a circular economy. Today, such technologies and expertise are not yet mature in Europe. Focus on scale and commercialisation are thus critical, with targeted industrial support and consistent prioritisation across all policy fields. This can be achieved by introducing an EU Green Industrial Fund. The Fund could build on the resources of already existing and scalable EU financing instruments: the EU Innovation Fund and the InvestEU Fund.

Accelerating the deployment of the **EU Innovation Fund dedicated battery facility** is essential and it should be designed to support best-in-class projects in battery production with a spillover effect on the upstream part of the value chain, helping to foster recycling in the EU. Increasing support from the European Investment Bank for exemplary projects that lead the way in sustainable battery manufacturing and recycling is also important.

More about the Platform for Electromobility

The Platform for Electromobility is a unique alliance of Europe-based producers, infrastructure managers, operators, transport users, cities and environmental civil society organisations from across industries and transport modes. Our overarching goal is to reach a sustainable, multimodal transport system in which people and goods are moved across land, inland waterways, sea and air in Europe using exclusively fossil-free electricity. To reach its vision, the Platform unites all sectors constituting the electromobility ecosystem to pragmatically ensure the conditions for the full electrification of new light-duty vehicles by 2035, and build a sustainable European zero-emission transport system by collectively sharing their expertise, challenges and solutions.

For more information about the platform and its members, please visit:

<https://www.platformelectromobility.eu/>

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