european aluminium association

Position Paper

Recommendations of the European Aluminium Association for the evolution of the End-of-life Vehicle Directive

Brussels, 23 July 2014: Following the release of the Ex-post evaluation of Five Waste Stream Directives, including the End-of-life Vehicle (ELV) Directive, by the European Commission on July the 2nd (doc SWD(2014) 209 final), the European Aluminium Association (EAA) reiterates his key recommendations.

The ELV Directive should continue to focus on end-of-life

The Ex-post evaluation report sees as an issue that the ELV Directive may not yet sufficiently address material technology development, such as increased use of plastic and carbon in production of light vehicles and that there would be a trade-off between resource efficient technologically advanced materials and their recyclability.

EAA would like to stress that making a vehicle lighter and recyclable are compatible goals. For example, making a car lighter and more fuel efficient using aluminium or high strength steel instead of standard steel does not make the vehicle more difficult to recycle. So, if a trade-off would occur, this would primarily be due to the choice of less or non-recyclable materials that the ELV Directive should not promote. If its goal remains to limit the production of waste and to increase the rates of reuse, recycling and recovery, the ELV Directive should continue to focus on the end-of-life stage. This is also essential to continue stimulating the development of modern recycling and valorization processes for materials less or non-recyclable today.

Design for dismantling and recycling should be promoted

The most cost efficient end-of-life vehicle treatment is only achievable if all actors feel concerned. Post-shredder treatments are of course part of the solution, but dismantling before shredding also makes sense for several parts that can more easily be recycled into the same application family (e.g. bonnets). The easiness and economic feasibility of dismantling before shredding depends on parts location but also on design for dismantling. For the rest of the ELV that could not be economically dismantled, ELV processing plants and manufacturers should be required to accelerate development of post-shredder separation technologies that will retain aluminium alloys in closed material loop and high quality applications and try to find solutions through better design for recycling.

Alternative recyclability metric than a mass percentage should be investigated

The fact that recycling targets are mass-based can penalize the substitution of heavier recyclable materials by lighter recyclable materials.

Indeed, light-weighting leads to a lower mass-share of recyclable materials and a higher mass-share of non-recyclable materials while, in absolute terms, the end-of-life waste production does not change.Therefore, mass-based targets can sometimes give a pessimistic picture of the recyclability of a car.

Volume-based targets would be better in that sense but are unfortunately much more difficult to measure in practice. We however believe alternative recyclability metrics than mass percentage should be investigated.

The exemption in Annex II for 0.4% lead content in aluminium must be kept.

The exemptions of aluminium containing certain levels of lead remain necessary because of the following reasons.

Casted aluminium such as engine blocs is the dominant form of aluminium application found in ELVs (80% of total aluminium) and still used today in modern vehicles (70%). These castings are generally coming from recycled scrap metal and may unintentionally contain lead up to 0.4% by weight. It is therefore essential that aluminium present in ELV continues being recycled into new vehicles component to secure in the future a sustainable treatment for the 200 millions of vehicles in use in the EU.

Dissolved lead impurities cannot be economically separated or removed during scrap processing or secondary refining due to the relatively higher reactivity of aluminium versus lead. This has been confirmed by a study “Existing technologies for lead removal from aluminium melts” by MimiTech UG[1] . The only solution to reduce the content of lead would be to “dilute” it by mixing recycled aluminium with primary metals. This would be totally counterproductive for the resource efficiency goals of the ELV directive.

There are no negative environmental, health and/or consumer safety impacts from low levels of dissolved lead in aluminium. Lead is a risk when it is in a form which can be assimilated by human beings, animals or plants. This can be the case if lead exist in the shape of dust, steam or smoke, or as an organic compound[2] that can be absorbed by the skin or dissolved as iron in water. Such risks do not exist with lead present in aluminium alloys used in vehicles.

An obligation to comply with lower limits would seriously impact the automotive and recycling industry.

About the European Aluminium Association:
The European Aluminium Association, founded in 1981, represents the whole value chain of the aluminium industry in Europe, from alumina and primary production to semi-finished, end-use products and recycling. The European aluminium industry directly employs about 255,000 people and yields an annual turnover of 36.8 billion €. *For information, please visit www.alueurope.eu*

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[1] Metallurgical Innovations and Materials for Industry technology Improvement, Professor Dr.-Ing. Bernd Friedrich
[2] lead tetraethyl- lead tetra methyl