

Encouraging sustainable materials to supply electro-mobility

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With the de facto ban on sale of ICE vehicles voted earlier this year, the argument on switching vehicles to zero emission has won in Europe. There is widespread agreement and more importantly concrete policies and targets at the EU and Member State level setting the trajectories for this to happen.

However, for the EU to continue leading the way internationally, to ensure industry produces electric vehicles and supporting infrastructure (passenger cars but also heavy-duty vehicles, collective transport modes and upcoming innovative modes) that both enable the green transition and set the foundation for resilience in an uncertain future, a more holistic approach to sustainable transport and resource flows must be adopted. This should be done by incorporating in the zero-emissions tailpipe approach, another approach with circularity and other planetary boundary impacts from transportation life cycles.

With the Sustainable Product Initiative, the European Commission (EC) gave co-legislators the opportunity to reward more sustainable behaviours in manufacturing by linking incentives to sustainability of materials. The Parliament and the Council must therefore take the opportunity to put in place a supportive framework that incentivises future improvement of EV design and promotes circular value chains.

Batteries as catalyst to increase ELV circularity in Europe

Innovations in battery technology and manufacturing as well as opportunities to reuse and recycle batteries and other high-value and impact components of electric vehicles (EVs) are already projected to significantly reduce greenhouse gas emissions over the lifetime of an electric vehicle: Transport & Environment have analysed EV life cycle CO₂ emissions, finding that, on average, EVs are already three times cleaner than an ICE equivalent.¹ But while all vehicles on European roads will be zero emission, the policy framework will need to incentivise further innovations and improvements in **recovery**, **recycling** and **re-using** components and secondary raw materials.

To reach Europe's 2050 climate objectives, it is necessary that all vehicles on the road are zero emission. But in addition, continuous improvement in **sustainability beyond CO₂** (reduction and prevention of impact to water use, biodiversity and other planetary boundaries from the materials chosen and processes undertaken) of vehicles is also vital. European legislation should therefore endeavour to support:

- **Innovations in materials, manufacturing and processes** that improve both products and production processes sustainability.

¹ T&E, 'How Clean are Electric Cars?', 2022.

- **Research and innovation in industrially co-generated materials**, e.g., industrial by-products and residues, and materials generated from secondary sources to mitigate the use of natural resources and avoid unnecessary landfilling).
- **Advancement in the uptake of sustainably superior materials**, e.g., recyclable composite materials and low- and carbon-neutral metals for vehicle body panels and parts.

We therefore call the EC to consider the following policy recommendations:

1. **Support the advancement of sustainable and circular products** across the value chain, including investment into advanced ELV management focusing on harvesting parts for circulation, advanced disassembly for sorting and separation and recycling with the intention of closing resource loops within the EU.
2. **Focus on the precise sustainability performance of final products** by providing a definition to differentiate the product from components and materials.
3. Review the information requirements along the product supply chain between business-to-business (B2B) and business-to-consumers (B2C) products, components and materials.
4. Pivot support schemes including incentives to **take into account a lifecycle analysis (LCA)** approach, going beyond just tailpipe emissions to include design, components, targets for low-carbon and carbon-neutral materials and production processes and systems for component and material value retention.
5. **Target incentives to the most sustainable vehicles** - for example on the basis of their energy efficiency (km/kWh) and through life utilisation.

If the European Commission desires to continue to lead on sustainability and specifically circular economy topics we see the sustainable product initiative as a unique and well-timed opportunity to set the basis for significant advancement alongside Industry.