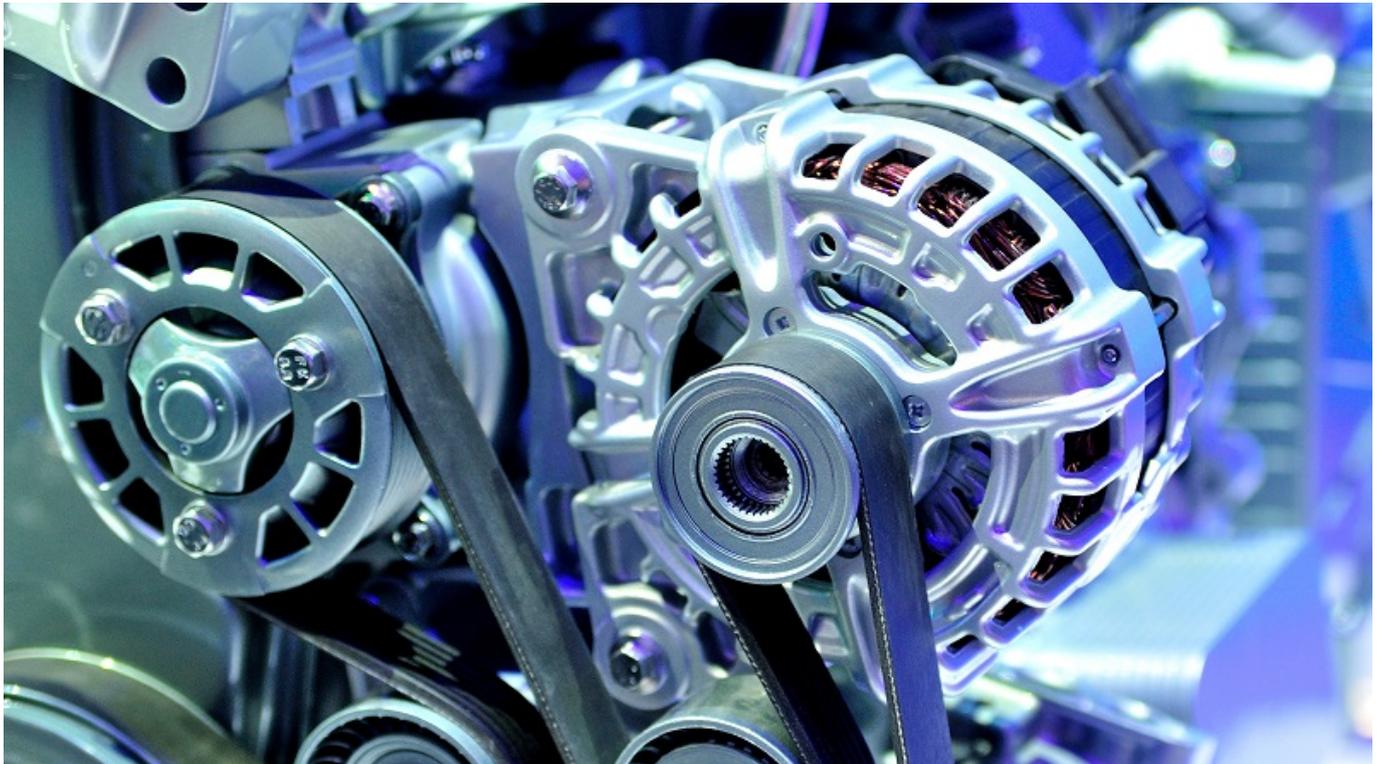


## How can lightweight materials such as aluminium help the EU meet its CO2 emissions reduction targets?

Written by Patrik Ragnarsson & Dieter Höll on 18 April 2017 in Opinion Plus  
Opinion Plus

EU legislation needs to recognise the advantages lightweight materials can offer in reducing CO2 emissions from vehicles, write Patrik Ragnarsson and Dieter Höll.



Can Aluminium lightweighting in cars help reduce CO2 emissions? | *Photo credit: Fotolia*

In July 2016, the European Commission set out its strategy for low-emission mobility. A key objective - reducing CO2 emissions by 2050 by at least 60 per cent from 1990 levels - already looks challenging considering the growing demand for mobility worldwide. Therefore, it is important we make full use of all available technologies and materials that can put us on track.

By making cars and vans lighter, conventional vehicles will use less fuel and emit fewer emissions. Lighter electric vehicles can travel further on the same amount of charge reducing vehicle-linked

emissions. Importantly, lightweighting confers this benefit to all types of vehicles without compromising safety.

Aluminium plays a pivotal role in this lightweighting process; its unique properties mean it is already widely deployed in automotive manufacturing; the average European car currently uses 150 kg of aluminium.

---

## RELATED CONTENT

- [Elżbieta Bienkowska: The aftershocks of dieselgate are still being felt, but together the Commission and Parliament are moving forward on effective legislation](#) [1]
- [Henna Virkkunen: In order for the transport sector to reduce its emissions, there needs to be joint action on the part of policymakers and industry](#) [2]
- [Davor Škrlec: New rules must reconcile mining with environment](#) [3]
- [Circular Economy targets: let's measure what matters first](#) [4]
- [György Hölvényi: Where does mining waste fit within the circular economy?](#) [5]
- [Maarten Labberton: The move towards a true resource efficient and circular economy is an invitation to think differently about the way we produce, consume and use](#) [6]

---

Given the right encouragement, this could increase to 200 kg by 2025, delivering a consequent reduction in CO2 emissions and fuel savings. Lightweighting through aluminium use offers a real opportunity to accelerate the shift towards low-emission mobility.

Given the advantages offered by lightweighting, Europe should embrace this opportunity to decarbonise the transport sector. We believe there are a number of options for action that will help realise the potential of lightweight solutions such as aluminium.

The next revision of the CO2 standards for cars and vans presents an opportunity to correct the negative effects of basing targets on the mass of the vehicles. The current system no longer makes sense from either environmental or cost-effect points of view.

First, because heavier vehicles are currently permitted higher CO2 emissions than lighter ones. Second, since car manufacturers don't realise the full benefit of their investment in lightweighting, as a lighter car has to comply with tougher targets over time. The mass-based system has a perverse effect of discouraging solutions that contribute directly to reducing CO2 emissions.

However, a switch to a footprint-based approach, based on a vehicle's size rather than its weight, would increase the appeal of lightweighting and encourage manufacturers to explore the full range of options for boosting fuel efficiency.

Additionally, it would be less expensive for manufacturers; a recent study has shown that adopting a footprint-based approach to achieving the 2025 CO2 target would be 16 per cent cheaper than the existing approach.

The positive impact on innovation should not be underestimated. The US routinely uses the vehicle footprint approach as the basis for its fuel efficiency legislation. This has already dramatically accelerated US investment in and deployment of lightweight technologies.

Lightweighting is a strategic priority for European car industry; insufficient encouragement to invest in

research into this area could see any competitive advantage quickly lost.

Another option for phasing out the mass-based approach would be to apply the same percentage reduction in emissions to all manufacturers. This would allow manufacturers to choose the most cost-efficient approach.

Asking all individual manufacturer groups to reduce their emissions by a fixed percentage between 2021 and 2025 would allow manufacturers full flexibility to choose their CO2 reduction strategy. Lightweighting and engine efficiency improvement would be treated equally, ensure technology neutrality and increase cost-efficiency.

Lastly, we should also take into account the wider benefits of aluminium, most importantly its lifetime contribution to a circular economy. When a car has reached its end of its life, more than 90 per cent of its aluminium is recycled into new car components or other products while using only five per cent of the energy used in its primary production; a further significant contribution to reducing CO2.

The advantages of lightweighting are indisputable and in the case of aluminium, the technology is tried, tested and already available. EU policymakers should seize this opportunity to realise its potential.

### **About the author**

Patrik Ragnarsson is Senior Manager Automotive & Transport Group at European Aluminium, the voice of the aluminium industry in Europe.

Dieter Höll is Chair of the Automotive & Transport Board at European Aluminium.

This topic will be discussed at the European Aluminium event [Driving low carbon mobility to a low carbon future](#) [7] on 27 April in Brussels. For more information, [read our position paper](#). [8]

### **Tags**

[Energy](#) [9]

[Environment](#) [10]

[Internal Market](#) [11]

[Transport](#) [12]

### **Categories**

[Business and industry](#) [13]

[ETS](#) [14]

[Energy](#) [15]

[Environment](#) [16]

[Transport](#) [17]



### **Site Sections**

- [Home](#)
- [Content](#)
- [Policy](#)
- [Magazines](#)
- [PM+](#)
- [Thought Leader](#)
- [EU Elections 2019](#)
- [Editorial Calendar](#)
- [Policy Events](#)
- [Event Coverage](#)
- [MEP Awards 2019](#)
- [Contact Us](#)

## **Services**

[Dods PeopleDods](#)  
[MonitoringDods](#)  
[ResearchDods](#)  
[EventsDods](#)  
[Training](#)

## **Media & publishing titles**

[Politics HomeThe](#)  
[HouseThe](#)  
[Parliament](#)  
[MagazineHolyrood](#)  
[Total PoliticsPublic](#)  
[Affairs NewsCivil](#)  
[Service](#)  
[World](#)  
[PublicTechnology](#)  
[Training](#)  
[JournalDods](#)  
[Parliamentary](#)  
[CompanionVacher's](#)  
[Quarterly The](#)  
[European Union and](#)  
[Public Affairs](#)  
[Directory](#)

## **Dods events**

[Westminster](#)  
[BriefingDigital](#)  
[Health & Care](#)  
[ScotlandMEP](#)  
[AwardsThe Skills](#)  
[SummitScottish](#)  
[Public Service](#)  
[AwardsPublic Sector](#)

[Procurement SummitPublic Sector ICT SummitCyber Security SummitCyber Security 2017Training Journal Awards](#)

**Partnership events**

[The Health and Care Innovation ExpoCivil Service LiveCivil Service AwardsChief Nursing Officer for England's SummitWomen into LeadershipThe Youth Justice ConventionSocitm Spring ConferenceNHSCC Annual Members' EventDods at Party Conference](#)

---

[Privacy PolicyTerms & ConditionsAdvertisingSponsorship Subscriptions](#)

---

**Source URL:** [https://www.theparliamentmagazine.eu/articles/partner\\_article/european-aluminium/how-clean-lightweight-materials-such-aluminium-help-eu](https://www.theparliamentmagazine.eu/articles/partner_article/european-aluminium/how-clean-lightweight-materials-such-aluminium-help-eu)

**Links**

[1] <https://www.theparliamentmagazine.eu/articles/opinion/car-industry-needs-clean-and-reinvent-itself-our-support>  
[2] <https://www.theparliamentmagazine.eu/articles/opinion/protecting-environment-means-decarbonising-trans->

ort-sector

[3] <https://www.theparliamentmagazine.eu/articles/opinion/new-rules-must-reconcile-mining-environment>

[4] [https://www.theparliamentmagazine.eu/articles/partner\\_article/eurometaux/circular-economy-targets-let%E2%80%99s-measure-what-matters-first](https://www.theparliamentmagazine.eu/articles/partner_article/eurometaux/circular-economy-targets-let%E2%80%99s-measure-what-matters-first)

[5] <https://www.theparliamentmagazine.eu/articles/opinion/where-does-mining-waste-fit-within-circular-economy>

[6] [https://www.theparliamentmagazine.eu/articles/partner\\_article/european-aluminium/permanent-materials-circular-economy-game-changer](https://www.theparliamentmagazine.eu/articles/partner_article/european-aluminium/permanent-materials-circular-economy-game-changer)

[7] <http://european-aluminium.eu/resource-hub/driving-mobility-to-a-low-carbon-future/>

[8] [http://european-aluminium.eu/media/1843/european-aluminium\\_lightweighting-a-solution-to-low-carbon-mobility.pdf](http://european-aluminium.eu/media/1843/european-aluminium_lightweighting-a-solution-to-low-carbon-mobility.pdf)

[9] <https://www.theparliamentmagazine.eu/tags/energy>

[10] <https://www.theparliamentmagazine.eu/tags/environment>

[11] <https://www.theparliamentmagazine.eu/tags/internal-market>

[12] <https://www.theparliamentmagazine.eu/tags/transport>

[13] <https://www.theparliamentmagazine.eu/categories/business-and-industry>

[14] <https://www.theparliamentmagazine.eu/categories/ets>

[15] <https://www.theparliamentmagazine.eu/categories/energy>

[16] <https://www.theparliamentmagazine.eu/categories/environment>

[17] <https://www.theparliamentmagazine.eu/categories/transport>