
ECFD

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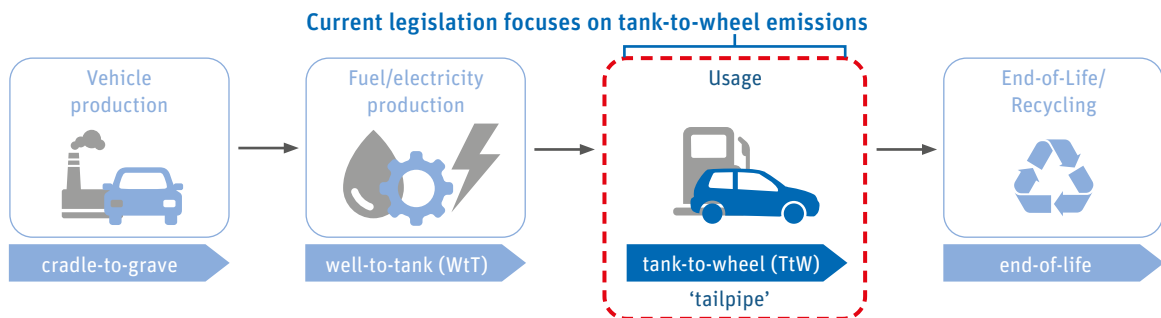
How the EU legislator is making the carbon footprint of electromobility look good and subsequently damaging climate protection



The consideration of CO₂ emissions only relating to the vehicle / exhaust does not go far enough!

For the legislator, only the carbon dioxide emitted by motor vehicles ('tank-to-wheel') count in the regulatory CO₂ fleet limits currently in force for new passenger cars and light commercial vehicles. Battery electric vehicles (BEVs) emit no CO₂ locally when driving. In this so-called 'tailpipe' (i.e. 'exhaust') consideration, they are therefore classified as CO₂-neutral even if they are

also powered by charging electricity from fossil sources, which is the reality in the German electricity mix. Real CO₂ emissions that occur during the production and subsequent disposal of the vehicle and in particular its battery, but also during the production of the charging current, are also not included in this approach!

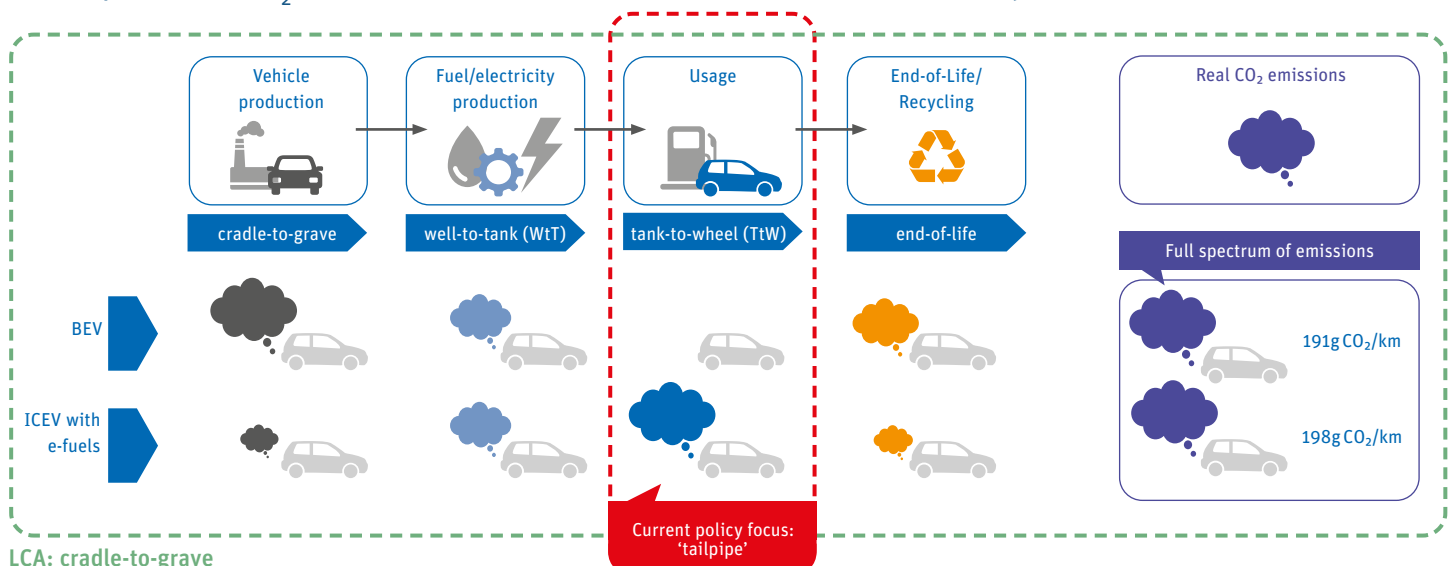


Only the consideration of CO₂ emissions over the entire lifecycle of a vehicle allows for a realistic picture!

However, a realistic representation of the carbon footprint of motor vehicles is only possible if it includes all emissions over the entire lifecycle ('LCA' or 'lifecycle assessment'). For the climate, it is irrelevant **when** in the vehicle's life CO₂ is emitted - whether, for example, during the generation of the charging current of a BEV or during the operation of a vehicle driven by an internal combustion engine (ICEV) - the only decisive factor is the overall CO₂ balance!

The introduction of the LCA approach into legislation would also end the regulatory disadvantage of ICEVs. This is because the application of the abbreviated 'tailpipe' approach has so far ensured that the legislator does not distinguish whether an ICEV is powered by pure synthetic e-fuels and is subsequently CO₂-neutral in real terms or is powered by conventional fuels and is thus not CO₂-neutral - after all, only the emissions at the tailpipe are measured.

Comparison of CO₂ emissions between BEV and ICEV over the entire lifecycle for 2020



LCA approach already decisive in many cases, but not yet for passenger cars and light commercial vehicles

In order to evaluate climate protection measures data on total CO₂ emissions is required. They help to make the right decisions, not only in traffic. In the production of biofuels, for example, the entire CO₂ emission chain is taken into account. Current EU regulatory initiatives such as 'FuelEU Maritime' for ship fuels and 'ReFuelEU Aviation' for aviation fuels are already based on the principle for admixtures. The CO₂ fleet

limit regulation for heavy trucks (2019/1242) has also called on the EU Commission to evaluate a Union method for the LCA approach. In contrast, the legislator has deviated from this scientific approach when legislating for new passenger cars and light commercial vehicles. This suggests that BEVs are to be deliberately favoured - to the detriment of the climate!

The 'Tailpipe' approach only makes CO₂ emissions disappear on paper!

The consequences of the 'fine calculation' via the 'tailpipe' consideration for passenger cars: CO₂ emissions from fossil sources of electromobility that occur in real terms are merely shifted from the CO₂ balance of transport to that of the energy sector. Real savings in

CO₂ emissions from fossil sources through the use of CO₂-neutral e-fuels are not recognised in the balance sheet due to incorrect regulation. This obstructs an important solution path for more climate protection in road transport.

Vehicle	Year	Green power/ e-fuels blending	CO ₂ emission values according to the 'tailpipe' approach	CO ₂ emission values according to the lifecycle approach
BEV	2020	<i>Increasing share of green power in the electricity mix</i>	0 g CO ₂ /km	191 g CO ₂ /km
	2040		0 g CO ₂ /km	61 g CO ₂ /km
	2050		0 g CO ₂ /km	19 g CO ₂ /km
ICEV	2020	0%	198 g CO ₂ /km	196 g CO ₂ /km
	2040	70%	146 g CO ₂ /km	63 g CO ₂ /km
	2050	100%	146 g CO ₂ /km	8 g CO ₂ /km

BEV: Vehicle type: Mid-size car, Purchase year: 2020, Service life: 10 years, Annual capacity: 15,000 km, Operating country: Germany (Reference scenario), Manufacturing country (battery): EU (Reference scenario), Dynamic (Electricity and fuels)

ICEV: Vehicle type: Mid-size car, Purchase year: 2020, Service life: 10 years, Annual capacity: 15,000 km, Fuel: Diesel, Operating country: Germany (Reference scenario), Manufacturing country (battery): EU (Reference scenario), Dynamic (Electricity and fuels)

UNITI demands: LCA approach also for passenger cars and light commercial vehicles!

The incomplete presentation of CO₂ emissions of battery electric vehicles, which is promoted by the regulatory authorities, must be stopped. Accounting tricks obscure the direct comparability of real emissions and hinder the market ramp-up of innovative technologies such as e-fuels. E-fuels could make a real and signifi-

cant contribution to climate protection. Therefore, the legislator should also consider CO₂ emissions over the entire lifecycle and apply the LCA approach in regulatory projects relating to passenger cars and light commercial vehicles!



Study available at:

www.uniti.de/kommunikation/publikationen/studien

Source

Graphics: schematic diagrams UNITI e. V. according to Frontier Economics, 2019

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