



SECTOR COUPLING VIA LIFECYCLE CO₂-CREDITS FOR THE USE OF LOW-CO₂ STEEL AS 'ECO-INNOVATIONS' IN THE AUTOMOTIVE INDUSTRY

The European Green Deal emphasizes the will of the European Union to become the first climate-neutral continent by 2050. Important decisions have to be taken very soon for the phase until 2030 for the deployment of the first low-carbon breakthrough technologies on industrial scale, especially in energy-intensive sectors.

The steel industry as well as other basic materials industries need to go through a major transformation process to meet the EU climate objectives. Fulfilling the targets is challenging but technically possible, e.g. via hydrogen-based steelmaking, carbon capture and utilisation/storage, process integration, and utilisation of steel recycling within the limits of scrap availability.

However, despite the high CO₂ reduction potential, companies still face huge barriers in terms of commercialisation. Estimations show that the production costs of low-carbon breakthrough technologies will increase significantly under the current political framework, making it impossible for domestic companies to compete on the world market against companies which do not have to undergo climate-related transformational processes.

The basic problem: there are no markets willing to acknowledge the higher environmental benefit, hence no customers willing to pay the higher production costs of low-carbon basic materials. A single sector cannot solve this issue alone. We clearly need a more coherent value-chain thinking to incentivise the decarbonisation of our economy.

Therefore, short-term regulatory measures are necessary to stimulate the development of lead markets for low carbon 'green' products triggering the large-scale deployment of decarbonisation technologies in the basic materials sector. Such an incentive scheme could be developed via the connection between basic materials and car manufacturers.

Proposal for the extension of Eco-innovations under the EU regulation on CO₂ emission performance standards for passenger cars and light commercial vehicles:

Until now, car and van CO₂ regulations have focused solely on tailpipe emissions that occur during the use phase of the vehicle. Applying a more holistic approach, the huge potential for the reduction of CO₂ emissions outside the pure boundaries of the automotive industry could be addressed by providing OEMs CO₂ credits for the use of 'green' (pre-) materials.

Article 11 of the EU regulation 2019/631 already enables car manufacturers to receive recognition for CO₂ savings with approved 'Eco-innovations' which are not considered in determining the level of CO₂ emissions from vehicles by the standard test cycle CO₂ measurement. This provision represents a first step towards Life-Cycle Thinking and provides a certain flexibility for OEMs of up to 7 g CO₂/km to meet the European CO₂ targets.

However, the Commission has adopted implementing acts which require that Eco-innovations must relate to the efficient operation of the vehicle, e.g. by improving the vehicles propulsion or the energy consumption, thus not considering low-carbon materials as eligible 'Eco-innovations'. This is problematic since it takes a very limited view of climate change mitigation.

It should be considered whether CO₂ reductions in the vehicle supply industry can be offset proportionately against the CO₂ fleet limits for new vehicles, in order to create economic impetus for the decarbonisation of upstream value-chains. The application of a lifecycle CO₂ credit, including materials, is closely related to a wider policy initiative to consider lifecycle emissions reporting in future vehicle CO₂ regulations, which the Commission is already looking into.

This approach enables on the one hand a more comprehensive view on climate protection in the mobility sector, by taking into account CO₂ reduction potentials along different industrial sectors, without relieving car manufacturers of their obligation to make their own efforts to reduce CO₂ emissions.

On the other hand, producers of basic materials will have an economically viable incentive to invest in innovative decarbonisation technologies on industrial scale, thereby realising a reduction of CO₂ emissions by millions of tonnes per year.