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CIRCULAR ECONOMY - AN ECONOMIC SYSTEMS FOR THE WHOLE MOBILITY SYSTEM?

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Short Description

My input lies in investigating the concept of Circular Economy and Sharing Economy in the mobility system. Which materials are used, how can they be looped and what hidden energy or material uses exist? Finally, how can mobility's energy and material use be ecologically, socially and economically sustainable?

Main part

The concept of Circular Economy is divided in two circles of materials: one with renewable materials, which can be absorbed by nature, and a circle of non-renewable material, which should be reused, shared, repaired, refurbished, remanufactured and/or recycled within society and not released to nature. A Circular Economy not only aims at reducing outputs of materials, but also inputs by avoiding or refusing their consumption. The mobility system is gradually adopting the ideas of circular economy and sharing economy resulting in potential emission reductions. However, what about the material base of the mobility system? Which materials can be looped? What must be done so that they are looped? And, what about "grey energy and materials" necessary for providing infrastructure and services such as streets, rail tracks, Apps as well as connected and autonomous vehicles?

The COVID-19 crisis has highlighted Europe's economic and thus material dependencies. Circular economy is a way to reduce such dependencies and to establish local or regional added value by returning unavoidable materials from the mobility system to one of the two circles. At the same time, the pandemic makes us aware of the weaknesses of shared mobility services such as car sharing and public transport. Ensuring the necessary hygiene measures and distance rules is difficult and people are insecure about using shared mobility services. Therefore, they switch to alternative transport modalities. It is now particularly important to motivate people to change to active mobility modalities such as riding a bike or walking and not to fossil-fuelled based vehicles.