



**Prof. Rainer Stegmann**

TUHH | DE

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**Prof. Wenjing Lu**

Tsinghua University | CN

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## **Waste Avoidance Management**

The main challenges for a sustainable life on earth are Climate Change, Global Pollution, Biodiversity and saving Natural Resources. Worldwide waste is mostly landfilled and incinerated but the rate of recycling is increasing. Although great progress has been made in the area of Circular Economy waste production rates have worldwide not changed; this is also true for countries with statistically high recycling rates. Strong efforts are necessary to recover more materials from waste but there are limits of rational waste recycling.

As a consequence the emphasis should be placed more on waste avoidance, which is the most effective “tool” in the reduction of emissions and saving resources. Although Waste Avoidance has the highest priority in the Waste Management hierarchy much more has to be done to further develop and implement this strategy.

A more consequent approach is needed where all residual products should be assessed regarding their avoidance and recycling potential. As a consequence new ways of waste avoidance have to be developed and enforced. Industrialized countries with their abundant consumption should be frontrunners. Such an approach cannot be realised from one day to the other but needs a strategy with a clear perspective.

Different tools are available: prohibition of materials and products (e.g. one way products), cost benefits for sustainable products, transformation of existing products into recyclable products, substitution of non renewable materials, products back to producer, more leasing, modified separate collection, and may be more. Technical, economical and logistical developments are necessary always considering their effects on produced emissions, the amount of used non renewable resources and the consumption of energy. Models for calculating the waste avoidance rates from recycled products should be developed. In this way recycling becomes more transparent.

New approaches in waste avoidance need not only appropriate technologies and regulations but also social acceptance of product changes and the implementation of a sustainable lifestyle. Waste avoidance in all its facets becomes rather complex and -in view of the authors –more research and education should be initiated.