

Digging deeper into questions of sustainability

Plastic vs. paper

At first glance, paper seems to be a step ahead. Perhaps because we're constantly confronted with images of plastic waste and polluted oceans in the media? If we take a closer look at the situation and include the carbon footprints of both raw materials in the assessment, a different picture emerges. The ecological balance of plastic and paper considered as a whole.

Is paper packaging environmentally friendly?

If we look at the consumption of resources and energy that is required for the production of paper, plastic is far more ecological. Taking tear strength as an example, you need about three to four times more material to achieve a similar result with paper packaging. Ultimately, the factors of higher energy consumption, high water consumption in production and the necessary addition of chemicals overturn the media image of evil plastic packaging.

The high material input in paper production also affects transport requirements, which in turn leads to a higher energy consumption compared to that of plastic products. The score is already 2:0 in favour of the allegedly negative impact of plastic and it's not even half-time.

Other reasons, pushing the lead up to 3:0, are service life, resistance to weathering, material stability and reusability. Here, too, plastic provides clear advantages. Plastic without paper, no problem. Paper without plastic, simply impossible. For example, creating a barrier in paper packaging is only possible to a limited extent without the use of plastic. Such applications only worsen the ecological balance and the end product moves further and further away from smooth recyclability.

Here comes the 4:0. Would you have known this? Paper often has to be separated from the additives it contains before the actual recycling process can begin, if it is possible at all. As a result, the additional energy input is huge. With plastic packaging made of mono-materials, on the other hand, recycling can be carried out more efficiently.

In terms of sustainability, paper scores its first point. Wood (the raw material for paper) is a renewable resource, as is oil (the raw material for plastic), it's just that for the latter things take about 100 million years longer. In terms of decomposition of materials, plastic is also about 400 years behind its competitor, but today we are already seeing the first recycling processes that are able to extract crude oil again from plastic waste!

Is plastic now the rightful winner with 4:1?

For me it is, but I can't answer for you. A great deal also depends on the type of use and the need in certain areas (food, pharmaceuticals, etc.). One thing is certain, the image fed to the public by the media is a complete misrepresentation and unfortunately driven by one-sided views.

Unfortunately, I have no solution, but I appreciate the problem.

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