Sustainable PET replacement from industrial waste gases

Project description: Mibelle Group products are often packaged in PET containers for sale. Fossil raw materials are used in the production of PET. Even with consistent recycling, it is not possible to recycle PET indefinitely, which means that a certain proportion of new PET must always be added to the PET cycle. At the end of its life, PET is incinerated, releasing CO_2 of fossil origin into the atmosphere.

If conventional PET is replaced by “CarbonSmart” PET, fossil-based raw materials are substituted with materials from waste gases from the steel industry during production. Conventional PET can be replaced 100 percent by CarbonSmart PET, which has the same properties.

Thanks to the CO_2 recycling technology of the start-up LanzaTech, carbon from the waste gases of the steel industry is converted into alcohol, which in turn is a starting material for the production of many materials, e.g. for plastic packaging. Plastic packaging made from CO_2 recycling reduces oil consumption, binds greenhouse gases and, unlike bioplastics, can be integrated into existing recycling loops.

The CO_2 PET bottle used by Migros has been awarded the most important prizes in the packaging industry, including the WorldStar Award in the sustainability category, the Sustainability Award from Packaging Europe and the German Packaging Award in the sustainability category. The changeover to PET involves additional costs of around 20 percent, which is why the project is supported by the M-Klimafonds.

Origin: Asia

Project duration: 2024 to 2025

Annual emissions reduction of the project: 66 t CO_2-e

Situation without project: Conventional PET

Impressions

Around 1.3 billion PET bottles are recycled in Switzerland every year. Photo: Mibelle Group

Plastic granulate with empty PET bottles. Photo: Mibelle Group