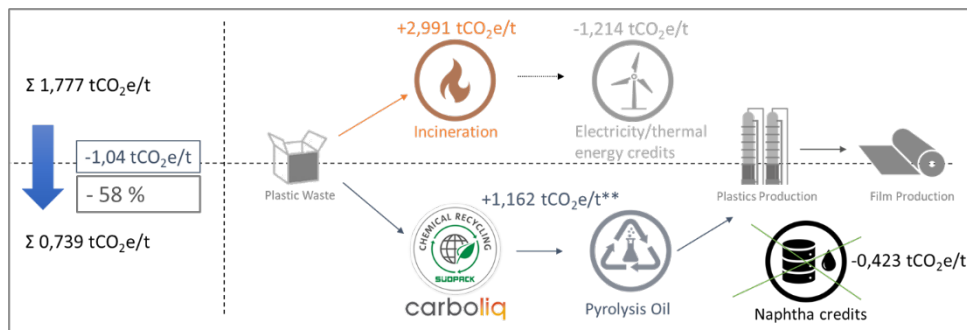


CAN SUSTAINABILITY CONCEPTS FOR FOOD PACKAGING BE USED AS A BENCHMARK FOR SINGLE USE PACKAGING IN THE BIOTECH INDUSTRY?

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To fulfill the targets of the EU Plastics Strategy, the draft of the European PPWR requires that all food packaging made from plastic shall be recyclable in 2030 and that plastic packaging shall include a defined recycled content. The circularity in the food packaging industry will significantly reduce the use of fossil feedstock as well as CO₂ emissions along the entire supply chain. In order to fulfill the requirements of the EU, the manufacturer of high-performance films SÜDPACK heavily invests in the development of products which are designed for circularity. Due to their mono polymer structure mostly based on PP or PE, these materials can be mechanically recycled and will substitute conventional multilayer structures wherever economically and ecologically feasible. Despite immense R&D efforts there will remain certain applications in which a substitution of multilayer structures by mono structures is not reasonable, mainly due to specific requirements of the packaged food product, i.e. barrier properties or protection against mechanical impacts. For those materials, chemical recycling can be a reasonable recycling technology to keep those materials in the loop which otherwise would have to be incinerated. LCAs proof that the CO₂ emission of chemical recycling is approximately 58% less than the CO₂ emissions of the incineration process. Furthermore, chemical recycling is an indispensable technology for achieving the target of including recycled content in food packaging materials as mechanically recycled plastic is mostly not specified to be used for direct food contact. With its investment in Carboliq, SÜDPACK has access to chemical recycling capacities which enable the manufacturer of high-performance films to develop customized business models to close loops along the whole value chain. Pilot projects are currently being developed. These include closed loops for process packaging as well as for waste streams generated in the converting process, inter alia. Depending on the material structure and/or the level of contamination, those materials will be either mechanically or chemically recycled and converted into new film structures – thus keeping the plastic material in the loop. The CO₂ footprint of recyclates by mechanical recycling is up to 98% lower, the footprint of recyclates by chemical recycling up to 20% lower than the CO₂ footprint of plastic based on fossil feedstock. The business models which are currently being proven for the food packaging industry can be a perfect benchmark for the single use packaging of Biotech products; thus contributing to the reduction of the CO₂ footprint of the Biotech industry – taking into consideration that necessary technologies for recycling and film manufacturing are already available in industrial scale.



The graph shows the difference of the CO₂ footprint related to 1 ton of chemically recycled mixed plastic waste versus the CO₂ footprint of 1 ton of incinerated mixed plastic waste.