

3m2: Circular packaging; biobased polymers for circular packages

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The current plastic packages have been developed to offer superior performance at minimal packaging weights and costs. The majority has, however, not been developed with carbon neutrality and recycling as end-of-life-option in mind. The mismanagement of plastic waste is causing ever growing quantities of plastics to enter our natural environment, with major ramifications for most life forms on our planet. Simultaneously, climate change forces us to reduce our greenhouse gas emissions, to which plastic packages also have to contribute. This masterclass will explore an alternative option for 2050. In this scenario all packaging plastics are produced from natural resources, have superior protective properties, are kept in the loop with advanced recycling technologies and they will biodegrade when they unintendedly enter nature. Together with experts from industries and contract research institutes we will explore the essential requirements for such an intrinsically circular biobased (food) packaging system. What type of polymers do we need for 2050 to satisfy our needs for (food) packages? What are their critical performance indicators? What type of recycling technologies (mechanical, chemical or enzymatical) do we require to keep this material in the loop? How are we going to produce these polymers from natural resources? How should the transition towards from the current fossil-based to the future biobased system be executed and how can we avoid system contamination? The masterclass will try to answer these questions and pave the road for an alternative food packaging system.