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LIFE- Project

Sustainable Technologies for straw utilisation as an Alternative to virgin Wood fiber
Reference: LIFE21-ENV-BE-STRAW_LIFE/101074692
Acronym: LIFE21-ENV-BE-STRAW_LIFE
Coordinating Beneficiary: ANHEUSER-BUSCH INBEV
Start Date: 01/01/2023
End Date: 30/06/2025
Total Eligible Budget: 4,354,610 €
EU Contribution: 2,612,766 €

AB InBev has started a transformation plan targeting the conversion of 100% of its packaging to be returnable or made by a majority of recycled content by 2025. In addition, AB InBev has an ambition to achieve net zero emissions across its value chain by 2040.

Figure 1. Folding carton for baskets produced by straw content

The STRAW_LIFE project aims at enabling these transformations at an accelerated pace on paper packaging. Most paper packaging today is derived from wood. The environmental challenges of the current use of trees lie mainly in the consumption of wood, energy, water, and chemicals. AB InBev believes it is important to revise the paper supply chain. To do so, it is important that current conventional manufacturing approaches are reviewed for potential evolutions to more sustainable and future-proof technologies utilizing existing and alternative materials.

Figure 2. Bottle label produced by straw content

The main objective of STRAW_LIFE is to demonstrate and validate new technologies and materials allowing the production of high-quality paper labels and cardboard packaging using a lower amount of wood, and with a lower environmental impact.

To achieve this, different technological routes are being investigated:

- **The use of alternative raw materials for paper making**, such as residual barley and/or wheat straw, are being explored. This material is transformed into usable fibers by a technology called “Phoenix Process”, owned by the US based company Sustainable Fiber Technology. This process is claimed to offer a series of sustainability benefits vs traditional wood pulping including reduced water, chemicals, and energy use.
- Technologies to **efficiently increase the use of recycled content** in our paper packaging.
- Technologies **allowing the same performance** at lower amounts of wood used.

In doing so, different technical issues need to be overcome.

However, some technical challenges must be overcome:

- For **labels**, work is being done to compensate whiteness and humidity interaction being negatively impacted by alternative materials, recycled materials and/or lower amount of materials. For instance, recycled paper typically has a lower whiteness due to the presence of residual inks and colored fibers. Moreover, the recycling process makes paper to absorb more humidity, which negatively affects the behavior of the label.
- For **cardboard packaging**, work is being done to compensate strength (not sustaining the weight of the content) being negatively impacted by alternative materials, recycled materials and/or lower amount of materials. For instance, the loss in strength caused by the recycling process can lead to the use of higher thicknesses to compensate for this loss of performance. This can cause recycled cardboard packaging to have a higher environmental impact than cardboard packaging made from wood.

The results and lessons obtained from the small, medium and large-scale trials performed during the STRAW_LIFE project are crucial for the further roll-out of more sustainable packaging with the chosen AB InBev brands. AB InBev hopes to scale the project's work to supply the global market, empowering different stakeholders across the labels and cardboard packaging supply chain and leveraging new validated technologies. Through this project, new knowledge can be shared with pulping factories, paper mills, pack converters, farmers, and all related industry stakeholders.

The environmental impact of this project will continue to be assessed and reviewed by an independent expert panel.

The ambition is that by implementing the STRAW_LIFE technologies by 2030, annual emission savings can be realized of approximately 17,000 mT CO2 globally and 1,900 mT CO2 in Europe.