The results presented are based on a study conducted by the Swedish research institute RISE.

www.eurosac.org

www.cepi-eurokraft.org

The paper sack – a low-carbon packaging

CO_2 footprint of the European paper sack in 2018

Extension of analysis

When including biogenic removals (associated with forest management, production of biofuels and of bio-based non-fibre inputs) **and biogenic emissions** (associated with combustion of biofuels) **in the calculation, the carbon footprint would even be -35 g CO_2e, which has a positive impact on the climate.**

CO_2 Biogenic removals

CO_2e Biogenic emissions

Climate-friendly sack kraft paper production

- 77% of all energy needs are generated on site
- 89% of fuels are renewable (used to generate heat, steam and electricity)
- 81% of fuels are produced on-site

Production of sack kraft paper: **56 g CO_2e**

Production of fuels and non-paper inputs: **15 g CO_2e**

Production of electricity: **7 g CO_2e**

Paper sack production

Direct emissions on-site: **2 g CO_2e**

Transport to converting operation: **5 g CO_2e**

2015 **92 g CO_2e**

2018 **85 g CO_2e**

-8%

Summary

Paper sacks are a low-carbon, circular and bio-based packaging solution

Between 2015 and 2018, the European sack kraft paper and paper sack industry made **continued improvements to its carbon footprint.** Whereas the carbon intensity of one tonne of sack kraft paper was reduced by 0.5% to **455 kg CO_2e** in 2018, a **significant improvement of 8%** has been achieved for one individual paper sack from cradle to gate. This is partly due to lightweighting efforts.

When looking at the data for a longer period, **the improvements have exceeded the EU climate action plan target to reduce greenhouse gas emissions by 20%** in the period 1990 to 2020. **From 2007 to 2018:**

- **the fossil carbon impact per tonne of sack kraft paper has been lowered by 20%** (from **570 kg CO_2e** in 2007 to **455 kg CO_2e** in 2018)
- **the fossil carbon impact per paper sack has been reduced by an even more impressive 28%** (from **118 g CO_2e** in 2007 to **85 g CO_2e** in 2018)

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