

## Project

**Life Cycle Assessment** of various Applications within the Printing Industry to compare the Product Carbon Footprint of Rotogravure Printing with other Printing Technologies

## Scope and Methodology

The main objective of this project is to compare rotogravure printing with other industrial processes, with the focus on the areas of application, rather than on the different printing technologies. By quantifying and assessing the **Product Carbon Footprint** (PCF) using a standardised framework, the Global Warming Potential over 100 years (GWP<sub>100</sub>), expressed as Carbon Dioxide Equivalents (CO<sub>2</sub>e) was calculated for several printing applications. This way, fair and comparable results were yielded.

## Case Studies

The case studies were selected to represent not only rotogravure printing but also the technologies with which it is compared.

**Flexible film packaging** printing for the comparison of rotogravure and flexographic printing.

**Commercial illustration** printing for the comparison of rotogravure and offset printing.

**Decorative paper** printing for the comparison of rotogravure and digital inkjet printing.

## The Green Future of Rotogravure Printing

Initiated by the Global Rotogravure Association (GRA), this project evaluated the PCF of rotogravure printing compared to flexographic, offset and digital inkjet printing using Life Cycle Assessment (LCA). Instead of comparing printing technologies in general, different applications of the printing industry were assessed fairly by employing a standardised LCA framework developed by “SP<sup>3</sup> – Center for Sustainability in Printing, Processing and Packaging” at Leipzig University of Applied Sciences (HTWK).

*“Rotogravure Printing not only stays a high-quality printing technology, but also a sustainable one.”*

Provided, that process standardisation, material efficiency and cross-industry collaborations are pursued systematically, rotogravure printing not only performs on par with other printing technologies, but also stays a sustainable one. The project revealed that a printing technology alone does not determine its sustainability, but rather the way in which materials, like substrate and inks are chosen and used. Standardisation plays a key role when assessing the sustainability and environmental impact of printed goods, to enable fair comparisons and track progress. Furthermore, this work emphasises the importance of academical and industrial collaboration, by collaborating with companies active in the printing sector.

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