Life Cycle Assessment (LCA)
for Aircraft Cabin Air Filter Element

What is an LCA?

Life Cycle Assessment (LCA) is an accepted standardised method to evaluate and understand the potential environmental impact of a product or service throughout its complete life cycle.

It is completed in line with these international standards:

- ISO 14040 Principles and Framework
- ISO 14044 Requirements and Guidelines

Why do a Life Cycle Assessment?

The aerospace industry is committed to achieve **Net Zero CO_2 emissions** by 2050. Pall's aerospace team is here to help our customers meet those goals.

For the first LCA, Pall worked with an outside consultant, Miljögiraff, who are experts in this type of analysis.

Design for Sustainability

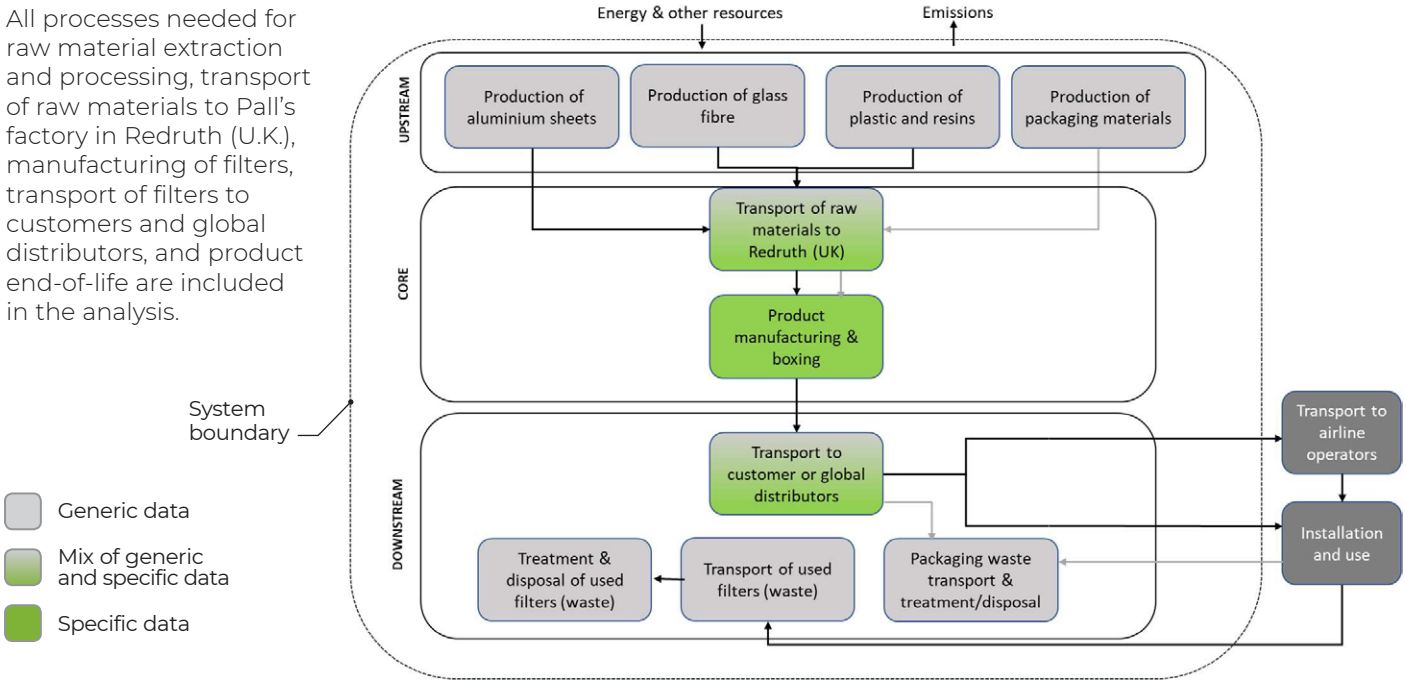
The results of the LCA are being used to improve our product designs and manufacturing process, as well as to inform new product design choices.

Pall's overall objective is to supply the aerospace market with more sustainable products to support the path to a greener, safer future for our planet.

This investment and future investments are one demonstration of our committment to sustainability.

Scope of analysis and system boundary*

All processes needed for raw material extraction and processing, transport of raw materials to Pall's factory in Redruth (U.K.), manufacturing of filters, transport of filters to customers and global distributors, and product end-of-life are included in the analysis.



*Aircraft operation was excluded from the analysis

RESULTS

LCA Results and next steps

The overall Environmental Footprint (EF 3.1 database)* results for total climate change for a single element are given below.

29.48 kg CO_2 eq

0.0059 kg CO_2 eq. per flight hour

Third party review and approval to show the report has been externally validated

LTS LONG TRAIL SUSTAINABILITY

Final Critical Review Statement

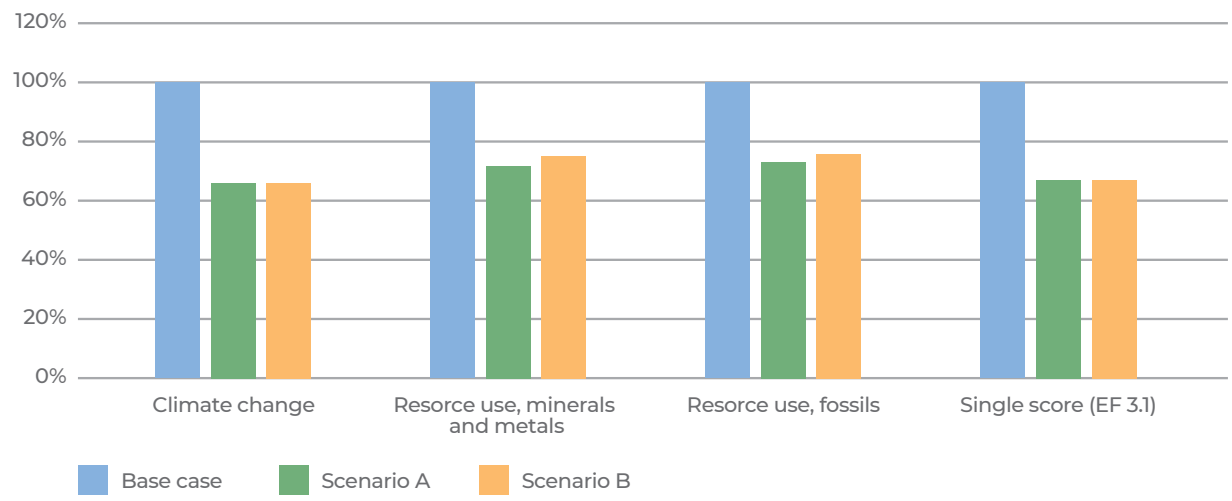
Date:	11/29/2023
Commissioned by:	Pall Aerospace
Reviewer:	Tait Bowers, PhD
Study Reviewed:	Life Cycle Assessment of Cabin Air Filter (53 pages)
Reviewer:	Tait Bowers, PhD
Reviewer Decision:	This study was found to be in compliance with the ISO 14040 and 14044 standards for life cycle assessment (LCA) studies. There were no unresolved issues upon completion of this critical review.
Applicability of Study Results:	The results of this study are only representative of the Pall HEPA cabin air filter for commercial aircraft environmental control systems. The study report can be published.

* https://simapro.com/products/environmental-footprint-database/

What are the Next Steps?

The results of the LCA will be used to inform design decisions to reduce the environmental impact of our cabin air filters.

As part of our analysis, two additional scenarios were modeled to assess the relative environmental impact of alternative designs. The feasibility of these ideas is being evaluated as part of our Design for Sustainability initiative.



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The information provided in this literature was reviewed for accuracy at the time of publication. Product data may be subject to change without notice. To verify that this information remains valid please consult your Pall representative or visit www.pall.com

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