What is the shortage of complete life cycle analysis for blended textile

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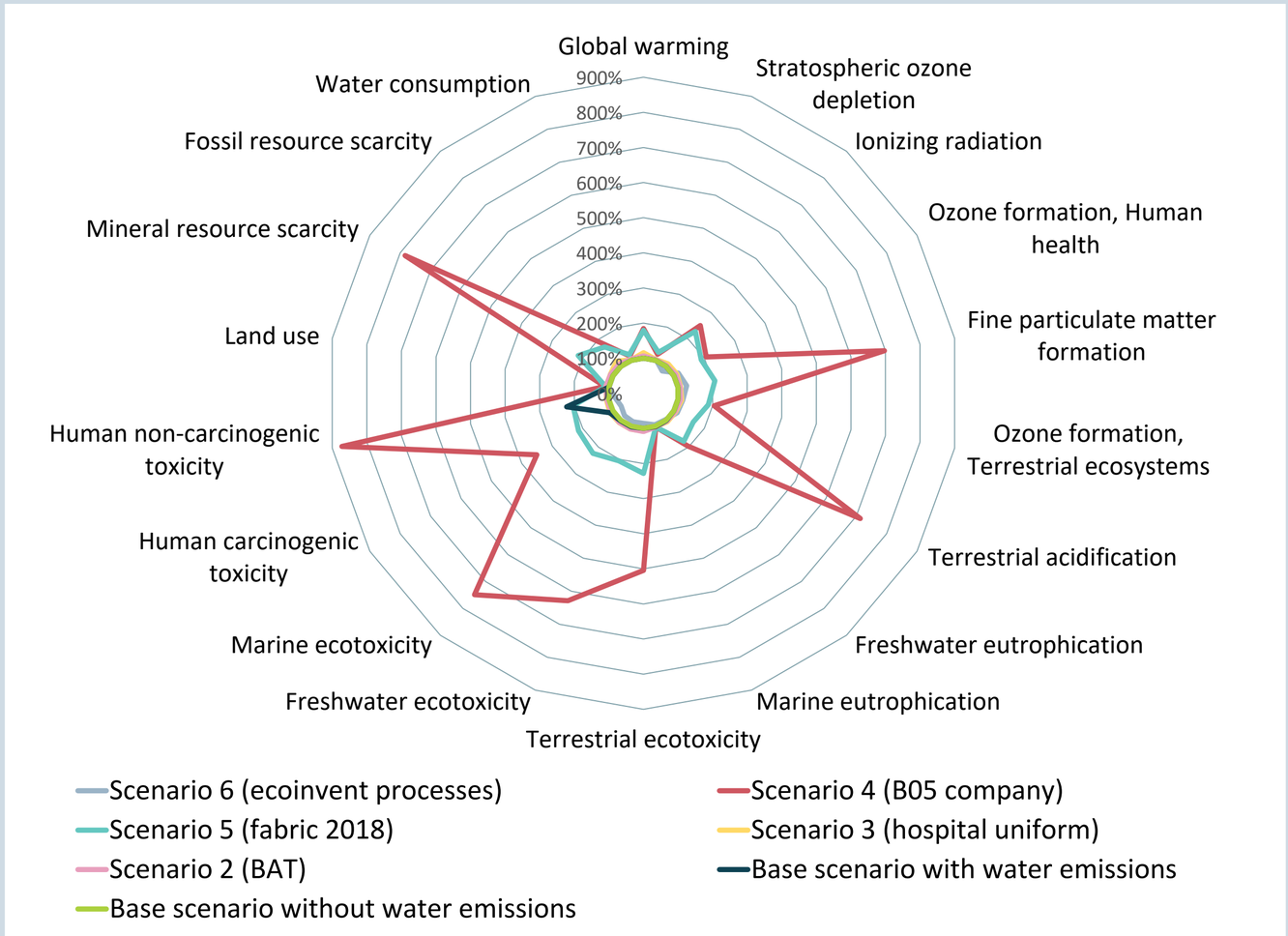
LCA revealed that variations in available data in the literature could lead to significant differences in environmental assessment outcomes.



Introduction

Textile fibers can be natural, artificial, and blended to ensure optimal properties.

Cotton-polyester blends hold a significant market share due to their low cost and excellent performance, but they have a negative impact on the environment.

There is limited information on their production, making environmental impact assessment challenging.

Therefore, the aim of this study was to identify the limitations and assumptions of environmental assessment studies on textile blends and their impact on the results.

Methodology

A literature analysis was carried out, including a bibliometric analysis and a review of the scientific literature and the Ecoinvent database.

The results of the literature analysis were used in the Life Cycle Assessment (LCA) to determine the possible effects of assumptions and data variations on environmental impacts.

Results & Main Conclusions

Bibliometric analysis showed that existing LCA studies on mixed textiles are unlikely to cover the effects and toxicity of wastewater.
This was confirmed by a further literature review.

Only five studies and reports were identified that address the environmental impacts of cotton-polyester blends, but these studies are not comprehensive and make assumptions.

Thus, it was concluded that it is not possible to establish a complete life cycle inventory based on the data available in the literature.