



INSTITUT FÜR ENERGIE-  
UND UMWELTFORSCHUNG  
HEIDELBERG



---

ifeu Wilckensstraße 3 D - 69120 Heidelberg Telefon +49 (0)6 221. 47 67 - 0 Telefax +49 (0)6 221. 47 67 - 19 E-Mail ifeu@ifeu.de www.ifeu.de

# Critical Review Statement

Project: 2023 Corrugated Board Recycling Rate (EU27+3)

Commissioning body: FEFCO (Fédération Européenne des Fabricants de Carton Ondulé)

Consultant / report author: CIRCPACK (Veolia Environmental Services BeLux)

Reviewed documents: “2023 Corrugated Board Recycling Rate Verification v2” (23.01.2026) and the revised “2023 Corrugated Board Recycling Rate Methodology v3” (12.03.2026), including the documented responses to the reviewer comments

Heidelberg, 17 March 2026

---



# 1 Scope of the critical review

---

This critical review covers the methodological framing, transparency, internal consistency and interpretation of the proposed approach to estimate the corrugated board recycling rate for EU27+3 (reference year 2023). The review is based on the information provided in the report and related response table. It is not an audit of third-party primary datasets and does not confirm the correctness of external data sources used in the calculations.

## 2 Main review conclusions

---

### 2.1 Framing: “verification” vs. “methodology”

In the earlier version, the report was framed as a “verification”, while several key parameters are estimated using proxies and a range-based approach. This can create misunderstandings on what can be confirmed with certainty. The revised version changes the title and framing to “Methodology” in order to avoid this ambiguity. This adjustment is appropriate and improves the clarity of the report for external users and stakeholders

### 2.2 Interpretation of results and values above 100%

The report shows that recycling rates above 100% can occur under optimistic parameter combinations and clearly states that such values are problematic and should not be used for communication. The report explains that these outcomes are linked to methodological sensitivity and to differences between data sources and assumptions. The recommendation to discard or cap values above 100% is reasonable to avoid confusion and misinterpretation.

### 2.3 Conservative lower bound (lower end of the interval)

The conservative scenario (lower bound) is based on more restrictive parameter choices and a more consistent use of data sources, and it is explicitly recommended in the report and in the responses as the credible basis for communication. Under these conditions, the lower bound is considered methodologically plausible and acceptable as a conservative estimate, as long as it is communicated clearly as a lower bound (and not as a single exact “verified” recycling rate).

### 2.4 Suitability for use

With the revised framing and the conservative interpretation, the report is suitable for:

- establishing an industry baseline,
- supporting a repeatable methodological framework, and
- communicating a conservative headline message (for example, that corrugated board recycling in Europe exceeds 90%), provided that the stated limitations and uncertainty drivers remain visible in any external use.

At the same time, the results should not be used as a strict regulatory compliance figure without further improvements to some key data elements, in particular regarding export equivalence and the composition of mixed recovered paper streams.

## 3 Overall statement

---

In its revised form, the report provides a transparent and defensible methodology for estimating a corrugated board recycling rate at EU27+3 level. The conservative lower bound of the interval can be considered reasonable within the stated methodological constraints, and the revised framing helps to avoid over-interpretation of the results.

Heidelberg, 17 March 2026

A handwritten signature in blue ink, appearing to read 'FW', with a long horizontal stroke extending to the right.

Frank Wellenreuther, ifeu gGmbH