EPD OPTIMIZATION REPORT

LEED Credit: LEED v4.1 MRc2 — Environmental Product Declarations, Option 2 (Optimization Assessment)

Product:	Manufacturer:
JetCure R	CONMIX Ltd.
Issue Date:	**Expiry Date:**
25-Mar-2026	24-Mar-2031

EPD Reference and Optimization Basis

Product: JetCure R
Declared Unit: 1 kilogram
System Boundary: Cradle-to-gate with options (A1-A4, C1-D)
Manufacturer: CONMIX Ltd., United Arab Emirates
Program Operator: International Climate Intelligence System (ICIS)
EPD Number: ICIS-202603-122
Issue Date: 25-Mar-2026
Expiry Date: 24-Mar-2031

Basis of Assessment

- Baseline EPD: JetCure R EPD (ICIS-202603-122).
- Same product optimization; no third-party manufacturer EPDs used.
- System boundary: cradle-to-gate (A1–A3); declared unit: 1 kilogram.
- Modeled optimization scenario corresponding to an indicative 10-12% reduction in A1–A3 GWP.
- Improvements limited to manufacturer-controlled parameters in A1 and A3 with unchanged production technology.

Purpose

The purpose of this report is to assess potential cradle-to-gate (A1–A3) environmental impact reduction opportunities for CONMIX's JetCure R through a modeled optimization scenario, in accordance with the requirements of LEED v4.1 MRc2 – Environmental Product Declarations (Option 2).

Methodology

The optimization assessment was conducted using a life cycle assessment-based approach consistent with EN 15804+A2 and ISO 14025 principles, aligned with the requirements of LEED v4.1 MRc2 Option 2.

The current JetCure R EPD (ICIS-202603-122) was used as the baseline. A modeled optimization scenario was developed for the same product by adjusting selected, manufacturer-controlled parameters within the cradle-to-gate (A1–A3) system boundary, while keeping the declared unit, production route, and system boundaries unchanged.

The methodology focuses on identifying realistic improvement levers within the A1 (raw material supply) and A3 (manufacturing) stages, including acrylic polymer system optimization within the formulation and manufacturing energy efficiency. No changes were made to product specifications, functional performance, or downstream life cycle stages.

Environmental impacts were evaluated using the same impact assessment method applied in the baseline EPD to ensure consistency and comparability between the baseline and modeled optimization scenario.

As the optimization scenario is modeled for the same product and manufacturer using identical declared unit, system boundaries, and impact assessment method, the baseline and optimization results are directly comparable.

Results

The cradle-to-gate (A1–A3) Global Warming Potential (GWP) results for the baseline EPD and the modeled optimization scenario are summarized below.

Scenario	**A1-A3 GWP (kg CO_2e / kg)**
Baseline EPD	2.02
Modeled Optimization Scenario (proposed)	~1.78-1.82

The modeled optimization scenario represents a proposed potential reduction of approximately 10–12% in A1–A3 GWP relative to the baseline EPD, subject to implementation of the identified optimization measures.

Key Optimization Opportunities (A1 & A3)

A1 – Raw Material Supply (Polymer System & Inputs)

- Optimize formulation through incremental reduction of acrylic polymer content (~21%), supported by efficient formulation design and performance balancing.
- Prioritize sourcing of lower-carbon acrylic copolymer emulsions from existing suppliers.
- Improve polymer utilization efficiency to achieve required film formation and curing performance with lower polymer intensity.
- Use supplier-specific EPDs or verified emissions data for acrylic polymer and key inputs.
- Optimize packaging (e.g., HDPE containers) to reduce material use and environmental impact.
- Review raw material transport efficiency through route planning and load optimization, recognizing its relatively minor contribution.

A3 – Manufacturing (Blending & Filling)

- Improve mixing and material handling efficiency to reduce electricity consumption.
- Optimize plant operations through equipment efficiency and process control improvements.
- Increase share of low-carbon or renewable electricity where feasible.
- Reduce material losses during batching, mixing, and filling operations.
- Monitor and benchmark specific energy consumption (kWh/t) against best-practice levels.

Key Findings

The results of the optimization assessment indicate that meaningful reductions in cradle-to-gate (A1–A3) Global Warming Potential (GWP) are potentially achievable for JetCure R through targeted improvements within manufacturer-controlled processes. The modeled scenario demonstrates that the A1 and A3 life cycle stages represent the primary levers for reducing embodied carbon, with A1 driven by acrylic polymer composition and A3 by electricity use in blending and filling operations.

The identified optimization opportunities highlight that further reductions are primarily driven by improvements in polymer efficiency and material inputs (A1) and manufacturing energy optimization (A3), without changes to product specifications, functional performance, or production technology. These findings confirm that the proposed reduction potential is realistic and attributable to material and energy-related measures within the defined system boundary. In addition, the results demonstrate that JetCure R incorporates a water-based acrylic formulation, indicating that the product's baseline carbon profile is concentrated primarily in the polymer component rather than in manufacturing operations.

Overall, the interpretation supports the suitability of JetCure R for LEED v4.1 MRc2 Option 2, demonstrating a clear and credible pathway for proposed cradle-to-gate impact reduction, with the identified improvements representing incremental, performance-aligned optimization measures subject to implementation.

Limitations & Assumptions

This optimization assessment is based on a modeled scenario and represents indicative reduction potential rather than verified or achieved performance. The assessment is limited to cradle-to-gate (A1–A3) life cycle stages and Global Warming Potential (GWP) only; other impact categories and downstream life cycle stages are not evaluated. The modeled optimization assumes implementation of the identified improvement measures, primarily related to acrylic polymer composition and manufacturing energy use, without changes to product specifications, functional performance, or declared unit. Results are intended solely for LEED v4.1 MRc2 Option 2 documentation purposes.

Alan Beski Christopher
Sustainability Manager
GCAS Quality Certifications

Office no. 110, National Insurance Building
Sheikh Zayed Road
P.O. Box 65561
Dubai, UAE
www.gcasquality.com | info.dubai@gcasquality.com

GCAS Quality Certifications - ECO Platform member
