
**LIFE CYCLE ASSESSMENT (LCA)
OF BAMCORE PRIME WALL[™] PANEL**

Status Public

Client BamCore



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INTRODUCTION

1.1 Opportunity

BamCore's mission is to decarbonize the built environment by harnessing the best of nature and technology [1]. As part of this goal to turn buildings into climate solutions, BamCore has conducted a company-specific Life Cycle Assessment (LCA) to evaluate the environmental impacts of a selected product throughout the production stage, from raw material supply through manufacturing. To achieve a comprehensive understanding of the product's impact, BamCore has adopted a cradle-to-gate approach in conducting the LCA.

BamCore has engaged Sustainable Minds, an external practitioner, to develop an LCA for their Prime Wall™ framing system. The objective of the LCA is to identify the full range of environmental impacts of the panels, create an environmental product declaration (EPD) for use in business-to-business communications and communicating information to the market, identify areas where impacts can be reduced, acquire data for future product improvements, and contribute towards satisfying credits required in green building certifications such as the Leadership in Energy and Environmental Design (LEED®) building rating system or the Living Building Challenge. This project is critical to BamCore's commitment to providing the market with the necessary information to evaluate the environmental impacts of their products.

BamCore intends to use the LCA results to develop Sustainable Minds Transparency Reports™ (TRs), which are ISO 14025 Type III Environmental Declarations (EPDs) that can be used for communication with other companies, architects, and BamCore customers. Additionally, the TRs can be utilized in whole building LCA tools, in conjunction with the LCA background report and Life Cycle Inventory (LCI). The study aims to comply with the requirements of ISO 14040/14044, ISO 21930 standards, and UL's product category rules (PCRs) for Building Related Products and Services Part A: Life Cycle Assessment Calculation Rules and Report Requirements, version 4.0, and Part B: Structural and Architectural Wood Products EPD Requirements, version 1.1 [2] [3].

1.2 Life cycle assessment

This LCA report follows an attributional approach and comprises four key phases:

- Goal and scope definition
- Life cycle inventory analysis
- Life cycle impact assessment
- Interpretation of results

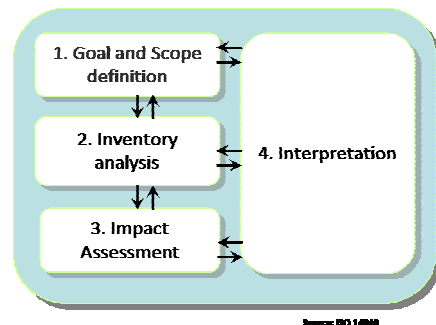


Figure 1. Phases in an LCA

For Type III Environmental Declarations, a critical review of the LCA and an independent verification of the Transparency Reports (TRs) are mandatory. This project includes both.

1.3 Status

The information presented in this LCA report is based on the inputs and outputs provided by BamCore at the time of data collection, and Sustainable Minds and BamCore adhered to best practices in transforming the Life Cycle Inventory into this report.

The data used in this report covers the annual manufacturing data for the 12-month period of September 2021 through August 2022 from BamCore's plant located in Ocala, FL. Also included in this report is secondary data from select raw material suppliers and literature data to complete the inventory and fill gaps as necessary. Primary supplier

data was provided for the bamboo plantation management and bamboo slat raw material production.

In instances where data was not available, assumptions were made based on similar supplier data or manufacturing data from BamCore's resources and other literature data. Expertise from BamCore employees was utilized to develop estimates or assumptions for upstream activities as needed.

The LCA critical review and verification of the Sustainable Minds Transparency Report / EPD was carried out by Tom Gloria, Industrial Ecology Consultants, LLC, and found to be compliant with ISO 14040/14044 and the relevant PCRs.

1.4 Team

This LCA report is the outcome of the efforts of the project team, led by Kate Chilton and Nicholas Allan on behalf of BamCore, with support from BamCore personnel during the data collection, reporting, and interpretation phases.

1.5 Structure

The subsequent sections of this LCA report are structured as follows:

- Section 2: Goal and scope definition
- Section 3: Life cycle inventory analysis
- Section 4: Life cycle impact assessment methods
- Section 5: Results and interpretation

This report incorporates LCA terminology. To facilitate comprehension, special consideration has been given to list definitions of significant terms used at the end of this report.

