

greenly ×



Case Study

Industry

Life Cycle Analysis

How Energy Vault Optimized **Sustainability Insights** with Greenly's Life Cycle Analyses

About Energy Vault

Energy Vault, a global leader in utility-scale energy storage solutions, recently leveraged Greenly's expertise to conduct comprehensive Life Cycle Analyses (LCA) on B-VAULT™, its innovative battery energy storage system. The collaboration provided actionable insights, enabling Energy Vault to calculate product sustainability, enhance supplier relationships, and inform sustainable product development decisions. The information gained from the collaboration further strengthened Energy Vault's market leadership, lent additional credibility for its sustainability communications, and provided the basis for meaningful insights to further improve product design. Energy Vault is currently performing an LCA on its H-VAULT™ and is working to centralize all of its product LCAs on the Greenly platform.



Location
Global



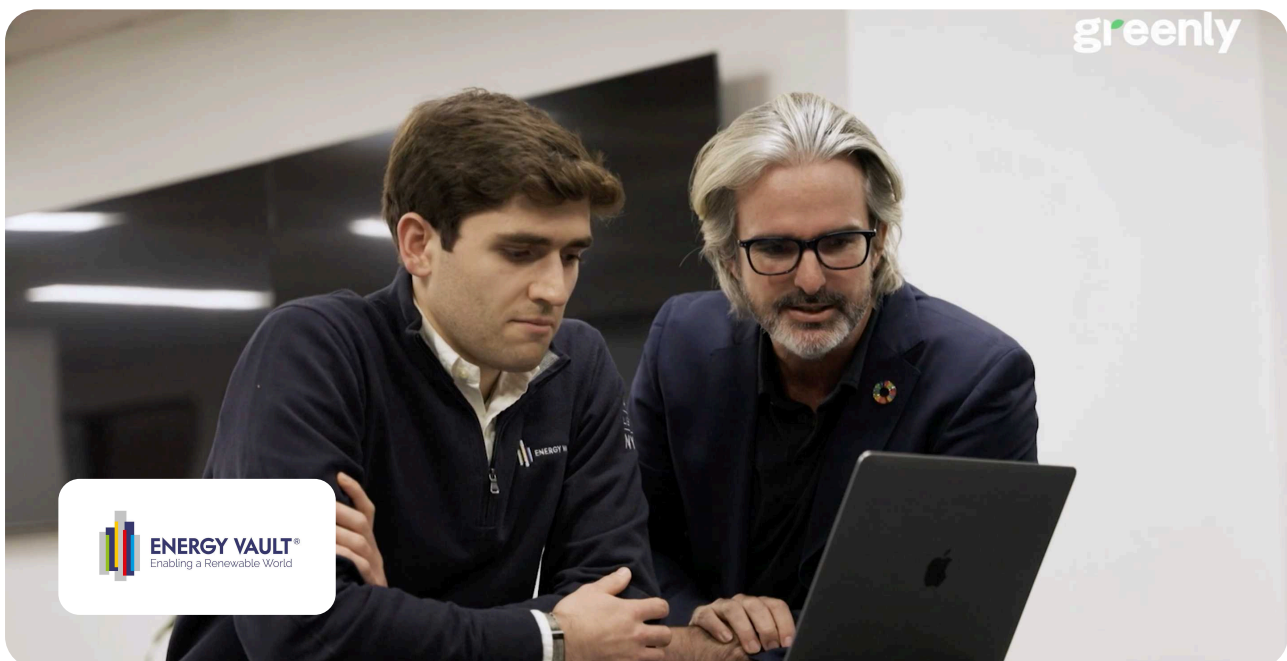
Industry
**Energy
Storage**



Employees number
150+



Analysis years
Ongoing



Challenges

As Energy Vault performed its first LCA on their unique B-VAULT™, company worked to align innovation and sustainability.

Understanding Environmental Impact:

Energy Vault required a granular assessment of its products' full life cycle to quantify environmental benefits and identify development areas.

Data Complexity:

Gathering accurate data across global supply chains proved challenging, especially for components like battery cells and inverters.

Client Expectations:

With sustainability becoming an important client priority, Energy Vault needed robust and verifiable data to communicate its environmental impact.

Greenly's solutions

To address these challenges, Greenly provided a dual-phased LCA approach:

1

Cradle-to-Gate Analysis:

An initial analysis assessing the environmental footprint of a B-VAULT™ as it completes assembly at the manufacturing facility

2

Full Life Cycle Modeling:

The calculation of a full project life cycle, as B-VAULTS™ are shipped across the world, installed on-site, operated for 20 years, and recycled at end-of-life. This looked at 8 environmental criteria, enabling comparisons across Energy Vault's product portfolio.

Greenly's support included:

Comprehensive LCA Models:
Tailored analyses to understand Energy Vault's unique energy storage solutions.

Data Standardization: Intricate collection and analysis of global supplier data

Continuous Collaboration:
Weekly touchpoints and ongoing post-delivery support to ensure seamless execution and model functionality.

Key Results

The LCA delivered critical insights and measurable outcomes:



Competitive Edge:

B-VAULT™ outperformed competitors in emissions metrics, reinforcing its market position as a leading sustainable energy storage solution.



Enhanced Decision-Making:

The flexible LCA models allowed Energy Vault to simulate design improvements, optimizing energy density, durability, and material selection.



Sustainability Leadership:

Recognized with the highest 2024 environmental, social, governance (ESG) score among energy storage companies in its industry by S&P Global Ratings.



Operational Transparency:

Equipped internal teams with detailed data to further refine product sustainability.





Client's perspective

“The partnership with Greenly has been extremely beneficial to Energy Vault. Greenly’s expertise and attention to detail enabled us to better understand and improve our products’ environmental impacts in a variety of useful ways. Together, we’re establishing new industry standards for sustainability in energy storage.”

– Michael Van Parys, Director of Sustainability, Energy Vault

Future Outlook

Energy Vault plans to integrate LCA data into its product pages, enabling customers to evaluate environmental metrics alongside technical specifications. With continued collaboration, Energy Vault is researching the viability of:

- Manufacturing systems using renewable energy.
- Increasing recycled content in components.
- Working directly with suppliers on sustainable innovation.



Why choose Greenly?

Energy Vault selected Greenly for their cutting-edge technology and exceptional support:

An intuitive platform for all requirements and maturity levels

Whatever your sector and whatever the size of your company.

Sustainable Procurement

Decarbonization Strategy

SBTi Compliance

GHG Assessment

Life Cycle Analysis

CSRD Compliance

Anomaly detection with Greenly AI

Advanced use cases for calculating carbon footprint (CO₂) require thousands or even millions of rows of data. Greenly's AI detects statistical anomalies, saving you time and effort

checking data...	Expense data	Expense data	Done	0	⌵
Validated categories in expense data	Expense data	Expense data	Done	0	⌵
Validated categories in expense data	Expense data	Expense data	Done	0	⌵
Non-validated categories in expense data	Expense data	Expense data	Warning	4	⌵
Non-validated categories in expense data	Expense data	Expense data	Warning	2	⌵

80% saved time

We join forces with leading companies from the consulting, banking and technology sectors to help companies decarbonise



150,000 EFs

including 40k monetary EFs & 30k customized supplier EFs.



Unrivalled Scope 3 measurement and accuracy

Thanks to our Supplier Commitment solution and our 150k emissions factors dedicated to your suppliers.

94 tCO₂e



+2500 customers

which has enabled us to develop very strong sectoral expertise

IVENCHY
PARIS



forest

platform.sh



Pernod Ricard

Qonto

ZEDIFY

HELLO FRESH

60+ Climate experts, dedicated support & training tools

Precise solutions, personalized support and benchmarking capabilities to help businesses understand their climate impact and develop actionable strategies



Benefit from the Impact & ROI of Greenly!

Unlock the full climate potential of your business and turn sustainability into profitability. Schedule a personalized demo today and discover the measurable benefits Greenly can deliver for your organization.

**Drive efficient and impactful climate
action today!**

Get your free demo