



HOW WE APPROACH PRODUCT LIFE CYCLE ASSESSMENTS

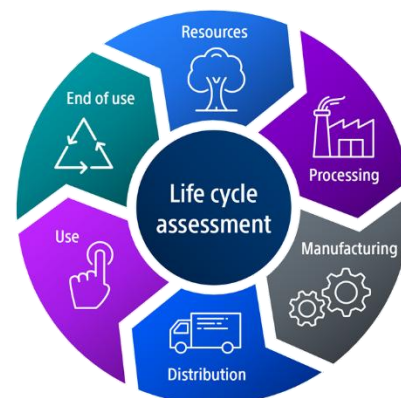
BACKGROUND AND CORE VALUES

At Boston Scientific, we are committed to delivering breakthrough innovations that improve the health of patients. Our focus on patient health extends beyond medical innovation and reflects the vital connection between environmental and human well-being. We therefore recognize our responsibility to understand and manage our environmental impact. Our core values—caring, meaningful innovation, high performance, diversity, global collaboration and a winning spirit—guide us to integrate environmental responsibility into the fabric of our business.

INVESTING IN LIFE CYCLE ASSESSMENTS

From design and sourcing to manufacturing, distribution and end of use, Boston Scientific is working to minimize the environmental impact of our products throughout their entire life cycle.

A life cycle assessment (LCA) is a systematic analysis of the environmental impacts of a product through all stages of its life cycle, including, for example, greenhouse gas (GHG) emissions, waste emissions, and water consumption. Our LCA process integrates technology, sustainability best practices and available data so that we can iterate in real time. A similar analysis, the product carbon footprint, focuses on measuring total GHG emissions generated throughout the life cycle of a specific product. Both LCAs and product carbon footprints provide data-driven insights to help guide decision-making across our entire value chain, creating opportunities to improve environmental performance and resource selection.



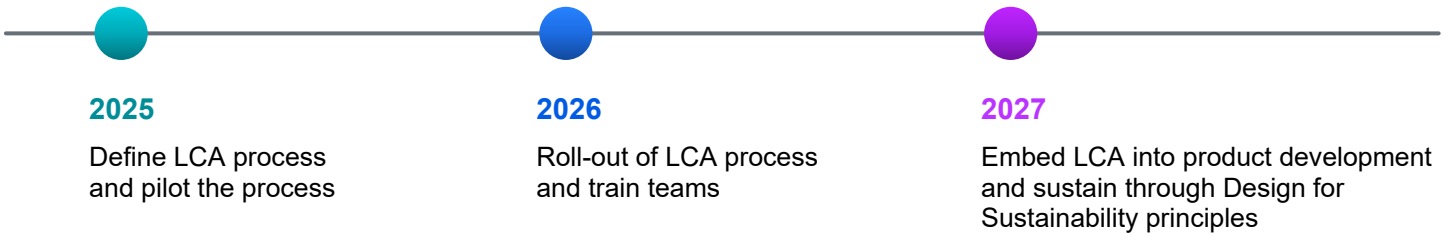
OUR APPROACH TO LCAs

Boston Scientific has long emphasized environmental sustainability and we disclose our GHG emissions and waste targets. We are piloting LCAs on selected products by following the International Organization for Standardization (ISO) standards 14040 and 14044 for consistency and reliability. After piloting product LCAs, we plan to incorporate lessons and improvements where applicable.

Our initial LCA strategy includes most stages of the product life cycle, from selecting resources to shipping to our distribution centers, and excludes use and end of use. In the future, we aim to complete LCAs based on business drivers, including the use and end of use of our products in the patient care pathway.

ISO standards for LCA

- **ISO 14040** provides a general introduction to the principles of LCA.
- **ISO 14044** sets out specific requirements for conducting LCA.



We value transparency and accountability as we work to reduce our environmental impact, including through LCAs. We conduct LCAs across a defined portfolio of products to:

- Quantify and evaluate the environmental impacts of materials and components used in our devices to help us drive material innovation, substitution strategies, product design optimization and process improvements.
- Identify opportunities to integrate sustainability early in the product development cycle, allowing cross-functional teams to account for environmental performance criteria alongside factors such as cost, quality and functionality.
- Optimize supply chain operations by identifying high-impact components, processes and suppliers within the product life cycle.

Collaboration with customers and vendors will allow us to better understand our product life cycles and therefore broaden the scope and depth of our LCAs. We also collaborate with cross-industry organizations to drive alignment in LCA adoption, including:

- Healthcare Plastics Recycling Council
- Sustainable Healthcare Coalition
- MedTech Europe and its affiliated associations, including the Association of British HealthTech Industries
- Contribute to development of an LCA standard for medical devices overseen by the German Standards Organization

Case study: LCA insights from EXALT™ Model D Single-Use Duodenoscope and LithoVue™ Single-Use Digital Flexible Ureteroscope

We have piloted LCAs on several products, including the EXALT™ Model D Single-Use Duodenoscope and the LithoVue™ Single-Use Digital Flexible Ureteroscope, to understand their environmental impact across the product life cycle. Key learnings include:

- **Device size:** Larger devices are likely to have a higher environmental footprint.
- **Materials:** Bio-based plastics can contribute to lower carbon impact in select applications. At the same time, materials such as PTFE, metals and electronic components remain essential to achieving required levels of device performance, quality and safety, and may be associated with a higher environmental footprint.



- **Energy use:** Electricity sourced from non-renewable energy ranks among the top contributors to a high environmental impact.
- **Packaging:** Packaging is essential for protection, so designing devices for smaller, more compact packaging can substantially reduce environmental burden.
- **Transportation:** Sterilization and distribution logistics add considerable impact when facilities are geographically distant. Regionalized processing and truck transport can help mitigate this.

Starting with LCAs on a few products has built a foundation to scale this work further in product development. Coupling LCAs with design for sustainability will unlock new opportunities, enabling us to innovate responsibly while meeting performance and safety requirements.

LCA METHODOLOGY

It is important to note that LCA produces estimates of environmental impacts. At Boston Scientific, the LCA methodology we have selected is the Environmental Footprint (EF) 3.1 method. This methodology was developed by the European Commission, and EF 3.1 is part of the EU-recommended LCA method to quantify the environmental impacts of products and organizations. The EF 3.1 is designed to be comprehensive, ensuring that it covers more than carbon emissions, providing a more holistic view of a product's environmental footprint. We want to understand customer goals in product sustainability and explore how to best support them, whether through targeted metrics, advocacy, shared use cases or joint sustainability initiatives.

LIMITATIONS OF LCA

LCAs play an important role in informing our decisions, but we recognize current limitations:

- **Standardization challenges:** There is no universal LCA standard specific to medical devices, which limits data comparability and increases the risk of misinterpretation. Until harmonized methodologies are established, comparisons of LCA results may not be fully representative.
- **LCA in a broader sustainability context:** LCA provides valuable insights, but it represents only part of a product's full impact. For instance, innovations that improve health outcomes and reduce hospital stays may deliver greater environmental value than LCA data alone can reflect. Additionally, LCAs do not assess clinical outcomes or patient pathway impacts, which remain central to product evaluation.
- **Investing time and resources:** While this work is critical for understanding our environmental impact, it requires an investment in time and resources.

CONCLUSION

We work to minimize waste and water consumption and reduce our carbon footprint across our value chain, while investing in sustainable solutions that benefit healthcare providers, patients, employees and communities. We are embedding LCAs in our product stewardship efforts as our data, tools and processes evolve so we can make measurable, targeted improvements.



RESOURCES

[Corporate responsibility](#)

[Latest Performance Report](#)

[Our approach to emissions reductions](#)

[How we're achieving our 2030 carbon neutrality goal](#)