WHITE PAPER

Sustainable decisions making:

ABB’s third-party verified Environmental Product Declarations

Start

Introduction

As a technology leader in electrification and automation, ABB is at the core of accelerating the energy transition. Every day, we empower customers across the globe to optimize, electrify and decarbonize their operations.

To preserve the earth's resources for future generations, we are moving to circular business models that eliminate waste and keep products and materials in use. Our Circularity Approach covers all stages of the product life cycle, from design and sourcing, through production and use, all the way to responsible end-of-life services.

We are committed to cover at least 80% of ABB's products and systems with our Circularity Approach by 2030[1]. We also aim to send zero waste from our own operations to landfill by 2030, wherever this is compatible with local conditions and regulations, while developing our capability to prevent waste generation. While on this journey we want to provide transparency on the environmental impact of our product portfolio.

[1] Based on revenues from hardware-based products and solutions, where granularity of financial systems allows. Service revenues are excluded.

1 The Life Cycle Assessment

When developing a product, some choices can have a major influence on the product's environmental impact. How can we measure these impacts?

Through the Life Cycle Assessment or LCA methodology, it involves modeling a system with the compilation and evaluation of all inputs, outputs, and the potential environmental impact of product throughout its life cycle.

The LCA provides a snapshot of a product in a certain time and location. Performing an LCA of the same product in a different country at a different time could produce different results.

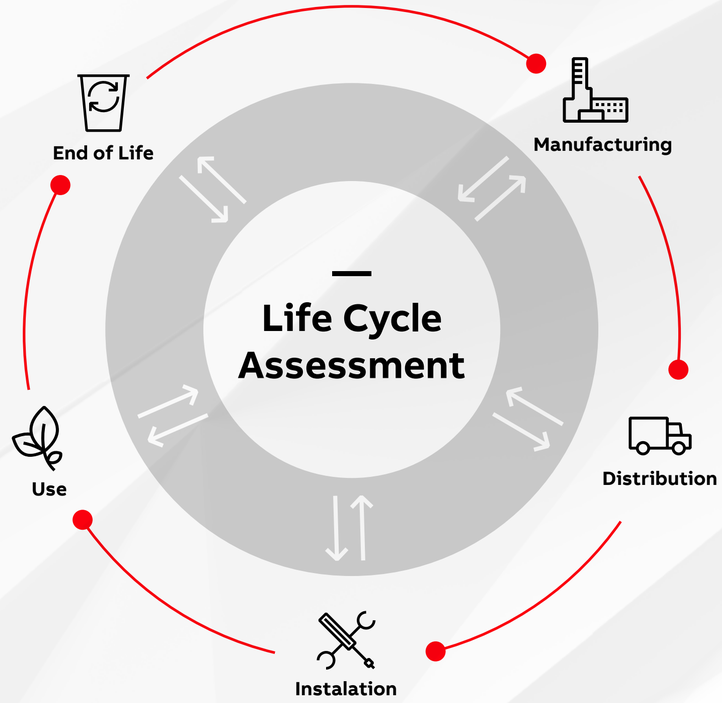
The results of the LCA are:

Environmental performance
By investigating and evaluating a product's environmental impact, it is possible to modify a product's design and improve its overall performance.

Environmental hotspots
By completing an LCA, it is possible to pinpoint the environmental hotspot(s), or where the greatest impact on the environment is coming from and works on them.

Validation of environmental claims
The LCA produces useful metrics which can be used to validate any claims made about the environmental impact of a product.

Once the Life Cycle Assessment has been completed, the data can be used to produce an Environmental Product Declaration (EPD).



2 Going the extra mile with Type III EPDs

An Environmental Product Declaration (EPD) is a globally recognized environmental document which provides comprehensive, transparent information about the environmental impact of a product throughout its life cycle. EPDs follow international standards and may be verified by independent third parties, which increases their credibility and comparability.

For Type III EPDs the rules for an environmental program are published by a Program Operator. Those consists of Product Category Rules (PCR) and Product Specific Rules (PSR). Program Operators are entities that besides publishing rules accredit third-party independent verifiers to support the certification and publication of EPDs. A successfully verified type III EPD will always carry the logo of the Program Operator.

The program operator responsibilities include:

- **Definition of the rules:**
  Based on other standards that are used to regulate LCAs, the Program Operator defines Product Category Rules (PCRs) for the study.
- **Publication of validated EPDs:**
  Once validated, the Program Operator publishes the EPD on their portal, making it a third party verified document.
- **Release EPD for use:**
  After validation and publication, the product is considered EPD certified. ABB EPDs are publicly available to view in the ABB library. EPDs and are valid for five years.

EPDs are becoming a license to operate

Customers, partners, investors and regulatory bodies increasingly require evidence of the impact our products have on the environment. EPDs are an important tool to provide transparency on the environmental impact of our product portfolio to these stakeholders.

Despite the growing relevance of EPDs, comparing them is not effective. The use of different Program Operators or LCA databases or even the mix of energy sources in the LCA would lead to different results. Among all, the most important element is the definition and specifications of the functional unit that is subject to study, which will differ greatly between alternatives. For those reasons, comparing EPDs may generate misleading results.

EPDs versus self declared environmental claims

Manufacturers or retailers can communicate individual environmental aspects of their products and/or services in different ways.

- Type I environmental labels (in compliance with ISO 14024) focus on certifying a product based on a multiple-criteria third party program, but not providing detailed breakdown environmental impacts of the product.
- Type II environmental labels (in compliance with ISO 14021) are self-declared environmental claims, independent third-party audits are not mandatory. Usually, they are only supported by internal verification of the data.
- Type III EPDs (in compliance with ISO 14025) rely on a life cycle assessment (LCA) study which has been certified by an independent third party through a dedicated audit process.

Type III EPDs, certified by an independent Program Operator, provide a comprehensive, third-party verified analysis of a product's environmental impacts across its lifecycle, this ensures that the data presented is accurate. The involvement of an independent Program Operator in Type III EPDs adds credibility - making them a valuable tool for stakeholders looking to make informed, sustainable decisions.

3 – Sustainability leadership with ABB MNS® Low Voltage Switchgear

ABB is going the extra mile by using third party verified Type III EPDs that follow strict international standards.

ABB uses Type III EPDs for MNS switchgear to make environmental performance transparent. These EPDs provide verified information about its environmental impact throughout its lifecycle, helping customers make informed decisions and achieve sustainability goals.

ABB MNS
All MNS Type III EPDs are publicly available in PEP Ecopassport Program Operator web* and covers the entire lifecycle from “Cradle to Grave”, providing detailed environmental information including the manufacturing site where it is produced. Furthermore, most components used in MNS are as well covered by its own Type III EPDs.

ABB MNS Digital
Enables real-time monitoring and analysis of energy consumption and overall conditions, helping make sustainable decisions and reducing the CO_2 footprint. Detailed data maximize energy efficiency and reduce operating costs, offered with extended lifetime of services.

ABB Ability™
Uses data analysis to increase energy efficiency and recommend predictive maintenance, extending equipment lifespan and minimizing downtime.

*PEP Ecopassport© (pep-ecopassport.org)

With ABB MNS, you gain a long-lasting solution that gives you the ability to monitor energy usage in real-time, providing you with valuable insights to make informed sustainable choices.

It can connect to ABB Ability™, which will use the data you collect about your energy usage and turn it into insights. You can then use these insights to make better decisions to optimize your operations, schedule predictive maintenance, and improve sustainability while reducing your carbon footprint.

A global multi-year sustainability program has been rolled out in our facilities to enable a low-carbon society. The main pillars of our program are:

Waste management:
Optimize waste sorting, waste reduction, and waste reuse

Paperless factory:
Use e-drawings to minimize printing, optimize the usage of recycled paper

Energy initiatives:
Purchase green energy, move to 100% EVs, on-site green energy generation with solar power supply.

4 ABB is ahead of the curve

The future of Environmental Product Declarations (EPDs) at ABB involves continuous improvement with more detailed environmental analyses and specific data. By integrating advanced technologies like IoT and Big Data, future EPDs will leverage real-time data to increase accuracy.

Walking the talk with ABB Electrification's EcoSolutions™ program

Customers, partners, investors and regulatory bodies are increasingly asking for information regarding the environmental impact of our products. We want to respond to their needs and support them on their own sustainability journey. Beyond EPDs, ABB's EcoSolution program is empowering customers and partners to make more sustainable decisions. Each EcoSolution product's circularity criteria and environmental impact are fully transparent and easily accessible through a QR code. The products need to meet circularity KPIs in each stage of the product life cycle and have Environmental Product Declarations independently verified by a third party (compliant with ISO 14025 Type III).

5 — Summary

ABB’s commitment to being transparent about its sustainability journey is evident through Type III EPDs and the EcoSolutions portfolio.

EPDs provide verified information for more sustainable decision making, helping customers achieve environmental goals. ABB has made significant progress in reducing CO_2 emissions, lowering energy consumption, and increasing recyclable materials. These efforts set new industry standards. With innovative technologies and a focus on environmental responsibility, ABB remains a reliable partner for a greener, resource-efficient future, contributing to a sustainable world while creating economic value.

Let’s talk about your project.

new.abb.com/low-voltage/products/switchgear

CONTACT US

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