# Achieving Market-Comparable Environmental Data

Position Paper

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Schneider Electric is committed to advancing sustainability through transparent and comparable environmental data across the electrical and electronic products industry. This document outlines what environmental data is, the challenges of environmental data comparability, and proposed actions to improve environmental data quality and comparability and foster industry alignment.

# Executive summary

Environmental data is a wide range of data measuring the environmental impact of a product. It includes:

- Full product lifecycle impacts, including but not limited to material usage, energy efficiency, product durability, recyclability, and environmental footprint.
- Life Cycle Assessment (LCA) data, regulatory-mandated metrics (e.g., recycled content, reparability, hazardous substances) and other voluntarily reported metrics (e.g., avoided emissions).

Making environmental data, like that from LCAs, truly comparable across different products and companies presents significant challenges:

- Methodological Misalignment: Inconsistent definitions and standards (e.g., recycled content, LCA frameworks).
- Data Quality and Availability: Reliance on secondary data and limited supplier engagement.
- Transparency Issues: Complexity in data communication and limited disclosure of assumptions.

Schneider Electric recommends several actions to:

- Harmonize LCA Scope and Scenarios:
    - Standardize lifecycle stages and impact categories.
    - Report impacts separately for cradle-to-gate, use-phase, and end-of-life.
- Enhance Data Quality:
    - Establish standardized Data Quality Ratings.
    - Strengthen supplier engagement to improve primary data access.
- Improve Data Communication:
    - Transition to standardized scoring systems (e.g., PEF score).
    - Promote transparent online data access and interoperability.
    - Phase out proprietary labels in favor of unified, industry-wide frameworks.

## Call to Action

Schneider Electric aims to influence the industry dialogue on environmental data standardization, quality improvement, and effective communication. Collaboration with industry players, regulators, and suppliers is essential to align on methodologies, foster transparency, and ensure meaningful product comparisons. This initiative supports the broader goal of driving sustainable innovation and enhancing trust in environmental claims across the sector.

# Introduction

Schneider Electric is committed to continuously enhancing its transparency and communication on the environmental impacts of its products through its Environmental Data Program, building on 15 years of its legacy Green Premium Label. As the group publishes a wide range of Environmental Data points, clarifying how customers can use this data and compare it with peers or the industry is crucial.
This paper addresses the principles, challenges, and solutions to achieve meaningful product sustainability comparisons, fostering industry alignment, and driving actionable insights from all stakeholders, including companies, regulators, and customers.

# Comprehensive approach to Environmental Data

## What is environmental data?

The scope of Environmental Data is **not fixed**. It is constantly **evolving with science and regulatory changes.**

**At Schneider Electric, the Environmental Data Program covers the full product lifecycle, and the data we report on is classified in 5 categories**: material and substances, energy efficiency, lifetime extension, repack and remanufacture, as well as environmental footprint (appendix #1).

Some of the data, especially material-related and environmental footprint, are generated using Life Cycle Assessment (LCA) methodology (appendix #2).

In addition to LCA data, other Environmental Data are required to capture the environmental performance of a product. Some data points must be reported as mandated by regulations like the Corporate Sustainability Reporting Directive (CSRD), and the Ecodesign for Sustainable Products Regulation (ESPR):

- **Recycled Content**: quantified post-consumer or industrial material inflows, and weight of recycled content.

  For example, the CSRD requires reporting the weight in both absolute value and percentage of secondary reused or recycled components.
- **Recyclability**: Measure potential material recovery at end-of-life.

  For example, the CSRD requires reporting the rates of recyclable content in products and packaging.
- **Durability**: Report on product lifespan and robustness.

  For example, the CSRD requires reporting the expected durability of products placed on the market.
- **Reparability**: Assess maintenance and part availability.

  For example, the CSRD requires reporting the reparability of products, using an established rating system, where possible.
- **Material Transparency**: Report on hazardous substances or critical raw materials.

  For example, the CSRD requires reporting the total amounts of "substances of concern" and "substances of very high concern" that are generated, used, or procured during production, and the total amounts that leave facilities as emissions, in products/services, with details on reduction measures.

## Why is environmental data measured and exchanged?

Reporting Environmental Data for each product can support decisions that align with environmental and circular economy goals:

- To consolidate sustainability reporting at the corporate level
- To comply with regulations, as mentioned above
- To support decision-making for eco-design, selecting the most sustainable design option
- To provide data to market stakeholders, fostering system-level environmental impact assessment, and product comparison and improvement.

# Challenges and Barriers of Environmental Data comparability

Making environmental data, like that from LCAs, truly comparable across different products and companies presents significant challenges:

## Methodological Misalignment

Several environmental data sets lack standardized definitions and methodologies, or companies reporting them use the existing standards inconsistently, for example:

- ISO 14021 defines recycled content as "the proportion, by mass, of recycled material in a product or packaging. Only pre-consumer and post-consumer materials shall be considered as recycled content. Yet ISO 14021 does not define the threshold of recycled content to make a claim that a product is made of recycled material. The regulation is starting to address it product by product (for example, for plastic bottles), but our industry does not have these thresholds set.
- ISO 14040/14044 defines guidelines to carry out life cycle assessment. Companies may calculate and report the LCA of their products using different methodological frameworks, including or not the use of sold product, and companies may get their LCA third-party or internally verified, following or not the requirements of the ISO 14025 standard related to Environmental Declaration based on LCA.
- Recyclable content is not yet defined by a standard. Recyclability also depends on the consumer's ability to recycle, and the absence of a standard for recycling labelling results in varied interpretations of what is considered recyclable.

While there are not yet any standard definitions and methodologies for concepts such as repairability, recycled content, and durability, in Europe, the European Sustainability Product Definition (ESPR) is expected to set common definitions and horizontal requirements across product categories as of 2025.

## Data Quality and Availability

Companies rely on different data sources, with varying quality, whether primary or secondary data. In addition, companies have generally limited access to primary data due to insufficient supplier maturity and engagement.

## Transparency and Communication

Environmental data can yield complex results that are inaccessible to non-experts. Most companies provide limited disclosure of assumptions and methodologies, hindering the comparability of data.

# Proposals to improve Environmental Data comparability

Schneider Electric recommends several actions to ensure that the data is properly understood, used, and compared:

## Harmonizing Scope, categories, and Scenario Assumptions for LCA data

The scope of life-cycle stages of LCA included in a product assessment (e.g., cradle-to-gate, cradle-to-grave) can greatly influence the result.

Different scopes can lead to incomparable results. The selection of impact categories in LCA, such as climate change, water use, or eutrophication, can also significantly affect the conclusions and comparability of different studies.

Schneider Electric recommends to:

- **Evaluate all lifecycle stages** but report cradle-to-gate, use-phase, and end-of-life impacts separately.
- **Standardize use-phase scenarios** across industries to enhance comparability.
- **Ensure that the LCA measures** the same impact categories.

## Improving Data Quality and Consistency

Secondary data from various sources can vary in quality and underlying methodology, affecting Environmental Data results. Numerous secondary datasets, from diverse external databases, are being used to calculate Environmental Data, creating result discrepancies and difficulty in comparison.

Schneider Electric recommends to:

- **Implement standardized Data Quality Ratings** (DQR) and fix minimum levels of quality for LCA secondary datasets, so companies calculating their LCAs rely on the most reliable and transparent LCA databases.
- **Prioritize supplier engagement** to improve primary data availability, transparency, and verification.

# Improve communication of Environmental Data to customers

In line with the EU Green Claim Directive and Digital Product Passport, Schneider Electric is pushing towards a transparent and data-based framework, as well as calling for the end of proprietary labels or scoring systems.

This captures the essence behind Schneider Electric's transition from Green Premium to the Environmental Data Program.

Schneider Electric recommends to:

- **Stop developing proprietary labels or scoring** as customer trust for those frameworks is low (appendix #3) and rely on standardized scoring systems like PEF score alongside other environmental indicators, providing visibility of environmental tradeoffs (e.g., climate change, water footprint, mineral resources depletion).
- **Make Environmental Data available online** for our customers (appendix #4)

- **Streamline data exchange and interoperability**, harmonizing data models and precise definitions for each data point across exchange formats such as ETIM, eclass, and others.
- **Develop an industry-wide definition and methodology** for each data point.
- **Develop an industry-wide data-based framework** that would replace existing proprietary labels that must be phased out by engaging industry groups as well as regulators.

## Schneider Electric Proposal to progress on Environmental Data comparability

To progress with environmental Data comparability, immediate actions and mid-term goals are needed. Schneider Electric is proposing to lead the discussion on the following:

### Immediate actions

1. **Framework Development**: Collaborate with industry groups to harmonize calculation methodologies, rules for primary data integration and secondary data selection, and communication practices. Key industry groups we will engage with are detailed in appendix #5.
2. **Educational Outreach**: Launch training programs to improve understanding of environmental data within Schneider procurement teams and suppliers.
3. **Supplier Engagement**: Improve data quality from suppliers to ensure greater use of primary data by defining clear data requirements. Work on an industry-wide supplier engagement initiative to alleviate the burden of collecting supplier data for each company. The automotive industry has been able to do it successfully using IDMS (International Material Data System – Appendix #5).

### Mid-Term Goals

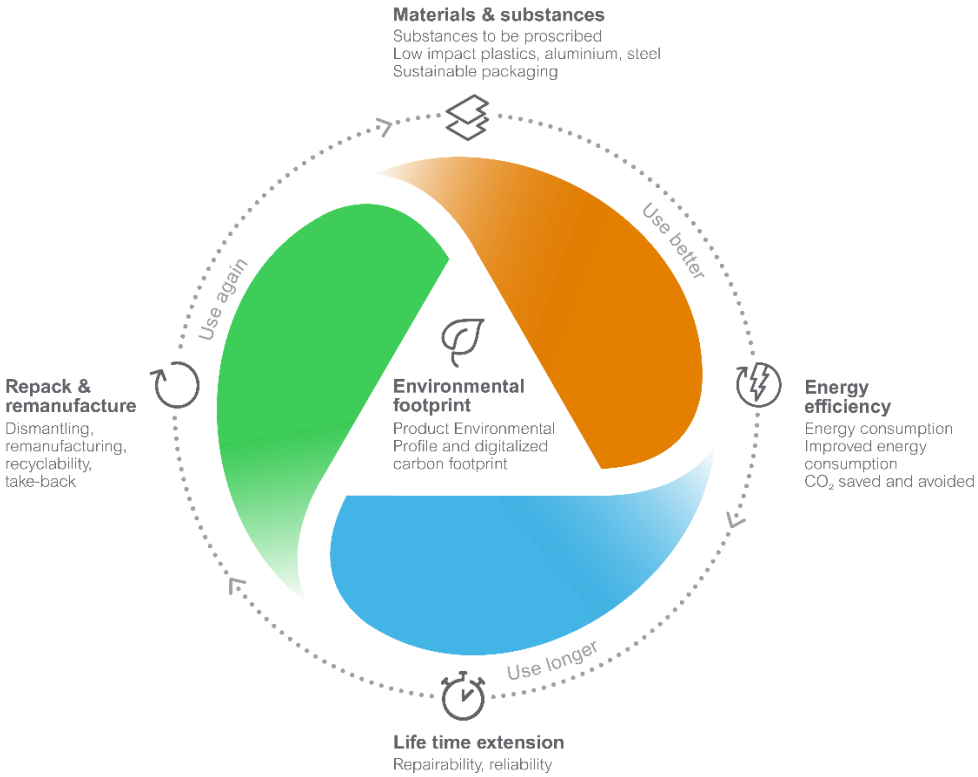
1. **Industry Alignment**: Advocate for sector-specific benchmarks and thresholds for specific environmental data like recyclability and reparability. Define which industry organizations or international organizations to work with (See Appendix #6 for an initial list of organizations)
2. **Support Regulatory Evolution and Harmonization**: Work with policymakers to support the development of horizontal requirements coming from regulations like ESPR and Digital Product Passport, in line with industry best practices.
3. **Develop harmonized rules and platforms for data verification and data exchange**, to ensure interoperability of data for any use case.

## Conclusion

Schneider Electric is committed to advancing sustainability transparency while enhancing comparability of data across the industry. Schneider Electric calls for an alignment with industry players and regulators on environmental data scope, quality ratings, and communication framework.

# Appendix #1

## The five Environmental Data Program categories




# Appendix #2

## Life Cycle Assessment methodology definition

Life Cycle Assessment is a foundational methodology to measure the environmental impacts of a product throughout its lifecycle. LCAs can inform:

- **Eco-Design**: Identifying environmental hotspots throughout the design process to reduce the overall environmental impact.
- **Sustainable Procurement**: Enabling informed procurement decisions based on environmental impact.
- **System Design**: Selecting products to design systems, considering environmental impact.
- **Regulations**: Enabling data-driven regulations and policies on product sustainability.

# Appendix #3

## EU Green Claim Directive extract on customer trust in environmental claims and labels

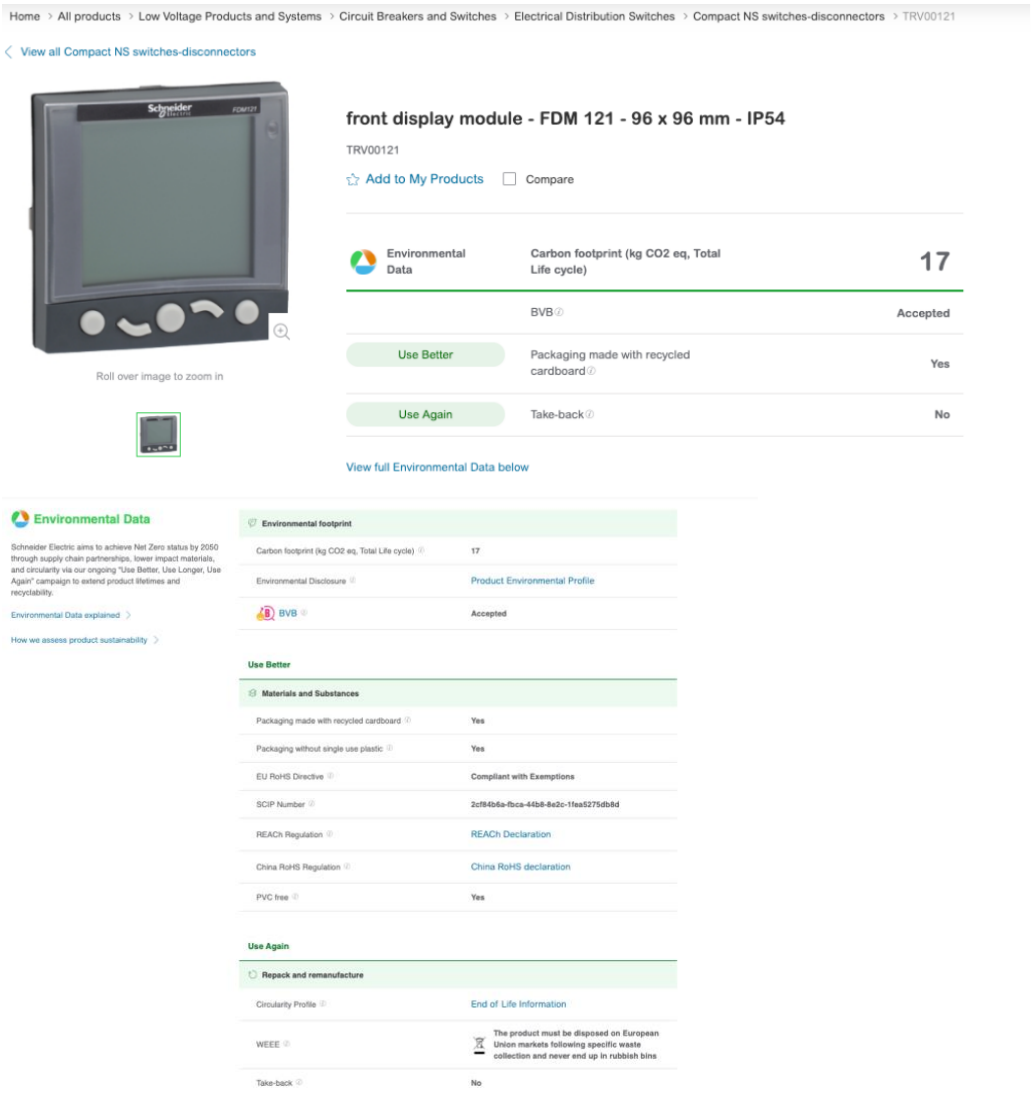
In general, consumer trust in environmental claims is quite low. During the 2020 open public consultation15, the general public did not agree with the statement that they trust environmental statements on products (1.57/ 4.00) [21] . The level of trust was higher for claims on traders [22] , but still low (2.25/4.00).

b) Consumers are faced with the use of sustainability labels that are not always transparent and credible

Environmental labels are a subset of environmental claims. The labels are in a form of a trust mark, quality mark or equivalent setting apart and promoting a product/process or business with reference to its environmental aspects. These labels are sometimes based on certification schemes (environmental labelling schemes) which certify that a product/process or business meets the requirements set up by the scheme and monitor compliance.

# Appendix #4

## Environmental Data available transparently online




# Appendix #5

## Automative Industry Material Data Base

The IMDS (International Material Data System) is the automobile industry's material data system. Initially, it was a joint development of Audi, BMW, Daimler, DXC, Ford, Opel, Porsche, VW, and Volvo. Further manufacturers have meanwhile joined the community, and IMDS has become a global standard used by almost all of the global OEMs. Talks are being held with further manufacturers regarding their participation in IMDS. In IMDS, all materials used for automobile manufacturing are collected, maintained, analyzed and archived. Using the IMDS, it is possible to meet the obligations placed on automobile manufacturers, and thus on their suppliers, by national and international standards, laws, and regulations.

To know more: https://www.mdsystem.com/

# Appendix #6

## Industry associations or international bodies we propose to work with

| EM/Divisions | Region | Name | Description |
|---|---|---|---|
| Global | Europe | ORGALIM | Orgalim is recognised as the foremost voice of Europe's technology industries in Brussels, and we engage with EU policymakers on policy and regulatory issues to help provide the framework conditions in which Europe's technology industries can flourish. |
| | Europe | DIGITAL EUROPE | The program is designed to bridge the gap between digital technology research and market deployment. It will benefit Europe's citizens and businesses, especially SMEs. Investment under the Digital Europe Programme supports the European Union's twin objectives of a green transition and digital transformation while strengthening the Union's resilience and digital sovereignty. |
| | France | PEP Ecopassport | The mission of the non-profit P.E.P. Association is to develop internationally the Environmental Declaration Program PEP ecopassport® concerning electrical, electronic, and HVAC (heating, ventilation, air-conditioning, refrigeration) products. |
| | International | IEC | IEC working on an international standard IEC 62635"Assessment of material recoverability rate of products", aiming to provide a method to calculate the material recoverability (=material recycling) rate of electrotechnical products based on end-of-life treatment scenarios. |
| | International | ISO | |
| Home & Distribution | Europe | CECAPI | The objective of CECAPI is to promote and develop the collective and common technical, industrial, economic, and political interests of the European electrical installation equipment manufacturing industry. |
| | France | IGNES | IGNES is the Alliance of industrialists who offer electrical and digital solutions to bring life to and animate the building for the benefit of its occupants.<br>These solutions make energy and data accessible in a secure, efficient, and sustainable way. |

| EM/Divi-sions | Region | Name | Description |
|---|---|---|---|
| Power Products | Europe | CASPIEL | CAPIEL is the Coordinating Committee for the Associations of Manufacturers of Switchgear and Controlgear equipment for industrial, commercial, and similar use in the European Union. |
| | USA | NEMA | NEMA is an ANSI-accredited Standards Developing Organization made up of business leaders, electrical experts, engineers, scientists, and technicians. NEMA convenes a neutral forum for Members to discuss industry-wide concerns and objectives under a legal umbrella by trained NEMA Staff. |
| | France | GIMELEC | GIMELEC is the professional organization bringing together companies that design and deployelectric and digital technologies for safe, optimized energy and process management. |
| | Ger-many | ZVEI | The German Electrical and Electronic Manufacturers' Association (formerly: German Electrical and Electronic Manufacturers' Association), represents the economic, technological and environmental interests of the German electrical and digital industry. |
| Power Systems | Europe | T&D Europe | T&D Europe is the voice of Europe's grid technology providers. Our members enable the energy transition, driving Europe's ambition for climate-neutrality by 2050. |
| Secure Power | USA | IMASONS | Infrastructure Masons (iMasons) is a global, non-profit, professional association of individuals connected and empowered to build a greater digital future for all. |
| | Europe | CEMEP | CEMEP is the European Committee of Manufacturers of Electrical Machines and Power Electronics. The Full members of CEMEP are 13 National Associations in Europe, representing manufacturers of electric motors, variable speed drives, and uninterruptible power supplies. |
| Digital Energy | USA | ACLCA | ACLCA is a non-profit membership organization that brings together diverse organizations with a stake in the implementation and application of LCA. |