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1. Purpose

This document aims to ensure that GSI's new products and projects are designed and developed with a focus on minimising their environmental & social impact throughout their life-cycle. By following these guidelines, GSI supports GE Vernova's commitment to environmental stewardship and driving sustainable business practices.

Grid Systems Integration(GSI) business at GE Vernova ("GEV") is committed to improving our impacts on our people, communities, and planet. We lead with integrity, respecting human rights, and work to ensure the safety of our teams. By deeply embedding lean principles and tools, we are creating a problem-solving culture, serving our customers better, and making progress on our pledge to achieve carbon neutrality in our own operations by 2030, including Scope 1 and Scope 2 emissions. We're also committed to action that can help address some of the world's most pressing challenges, including a net zero ambition for 2050 for the Scope 3 emissions from our sold products.

GSI is committed to promoting sustainability throughout our supply chain. As part of our ongoing efforts, by collaborating with our supply chain partners, we strive to enhance environmental and social performance of our products and services.

This document outlines the requirements for sustainability management for HVDC, ACS and FACTS equipment, materials, and spare parts suppliers.

2. Scope

This document applies to all GSI Manufacturing supply chain operations as well as regional sourcing & procurement related to customer projects. It aligns with GE Vernova's ambition of covering 90% top products with our Circularity Framework by 2030 and is to be understood in conjunction with the other requirements and contract documents for GE Vernova. This document includes plans to comply with demands related to five sustainability topics: Human Rights management, Life Cycle Assessment, Raw material/Product Passport, GHG reporting and overall climate transition plan.

Suppliers & Subcontractor shall adhere to a comprehensive approach to sustainability, encompassing, but not limited to, reduction of greenhouse gas (GHG) emissions, resource efficiency, waste minimization, responsible sourcing, biodiversity conservation, and alignment with relevant local, national, and international sustainability standards and goals.

Exceptions to satisfying these core requirements must be reviewed and approved in writing by GSI Sustainability leader or his/her designee.

3. Roles and Responsibilities

GSI HVDC; ACS; FACTS PDG, Engineering, Civil and Sourcing teams and suppliers are responsible for the continuous improvement of the projects & product circular and environmental performance using data, expertise, and solutions. These activities may include but not limited to:

- Exploring new materials, technologies, processes and/or suppliers.

- Benchmarking the environmental performance of components, materials and companies in the value chain.
- Involving suppliers and recyclers in the redesign of products.

4. Supply chain sustainability at Grid Systems Integration

4.1 Our Sustainability Framework:

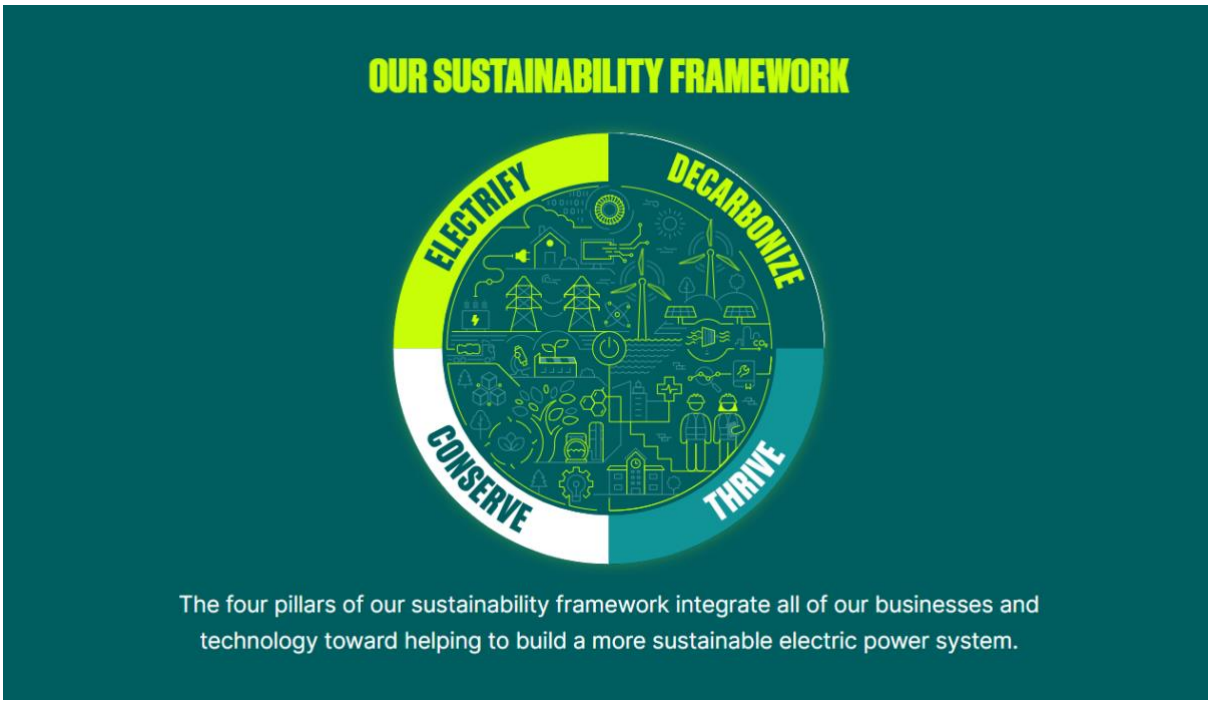

Figure 1 : GE Vernova Sustainability Framework

4.2 Decarbonize:

Our ambition is to be net zero in Scope 3 emissions from the use of our sold products by 2050. We are prioritizing the 2020s as a decade of action, with a focus on innovating technology solutions needed to achieve net zero emissions by 2050. This will take several forms, including advancing technology with the potential to further reduce carbon emissions and carbon intensity in this decade and beyond.

4.2.1 GHG Reporting & Energy reporting

To contribute to climate change mitigation, Grid Systems Integration commits in a first step to accurately measure the different sources of GHG emissions expressed in CO2 equivalents that arise during the manufacturing, transportation, installation & commissioning of the equipment. GSI Supply chain partners must accurately measure GHG emissions during the manufacturing, transportation and installation of equipment, following GHG protocol for Scope-1 & Scope-2 emissions.

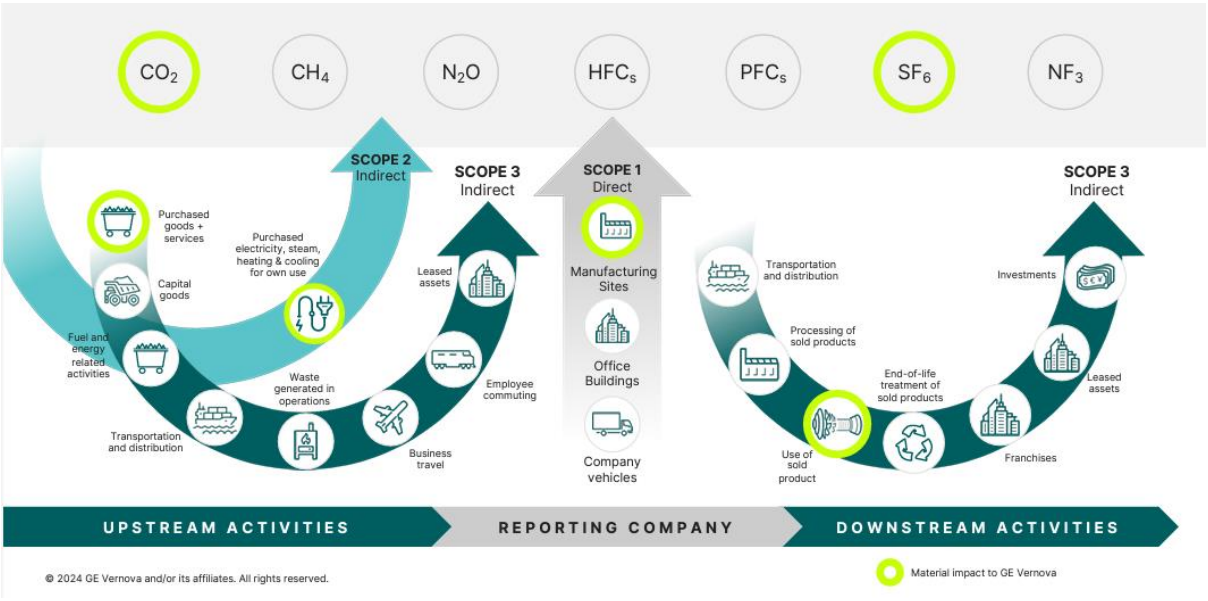

Figure 2: GHG Reporting illustration.

The GHG Emission report shall be in accordance to the ISBN 1-56973-568-9 (GHG Protocol) or EN-ISO 14064-1 and include a substantiation from a verifiable source for the largest emission groups that together add up to at least 80% of the emissions.

Yearly GHG data is to be provided by 5th January. Please consider a waste and energy allocation rule based on (1) hours/unit produced, (2) weight or (3) no of units, (4) Economic Output, depending on available data and in that order of preference.

4.3 Conserve:

We embed the '4Rs' Circularity Framework (Rethink, Reduce, Reuse, Recycle) into all parts of our business to account and reduce use of natural resources and our impact on the planet. GE Vernova's 4R circularity framework aims to incorporate a holistic cradle-to-grave approach to the lifecycle of our products, embedding circular principles and accounting for the impact of our products across our value chain.

4.3.1 Life Cycle Assessment :

Life Cycle Assessment (LCA) systematically analyses the potential environmental impacts of products or services during their entire life cycle. A life cycle consists of production, distribution, use, and end-of-life phases as well as the upstream (e.g., suppliers) and downstream (e.g., waste management) processes associated with the production (e.g., production of raw, auxiliary, and operating materials), use phase, and end of the life (e.g., waste incineration).

The International Organization for Standardization provides guidelines and requirements for conducting a Life Cycle Assessment according to ISO 14040 and 14044.

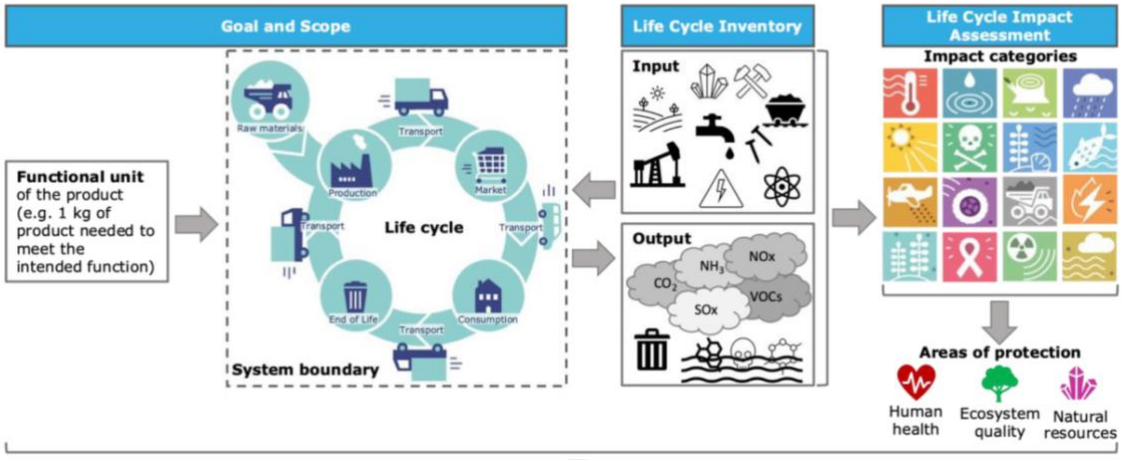

Figure 3 : Generic workflow of an LCA

We expect our partners by providing life-cycle inventory data for all type of equipment supplied to GE Vernova to create a baseline and prompt further actions (to be agreed) to further reduce the environmental impact value in future projects.

4.3.1.1 LCA Process & Scope

Suppliers should provide for each supplied equipment type a life-cycle assessment (LCA) conducted according to **ISO 14040 and/or an environmental product declaration (EPD) conducted according to ISO 14025**. The life-cycle inventory used should be supplied to GSI via the template available in Appendix-2. *The minimum we expect for the inventory is the material composition (Raw Material Passport) and the inputs during production (energy, consumables) and the waste generated during production. In case this would present unreasonable difficulties, the supplier is obliged to communicate this to GSI as early as possible to agree on other options.*

GSI expects that suppliers will diligently raise any issues they foresee in providing the data as described above. In that case, alternative options will be found, such as providing LCI based on secondary data.

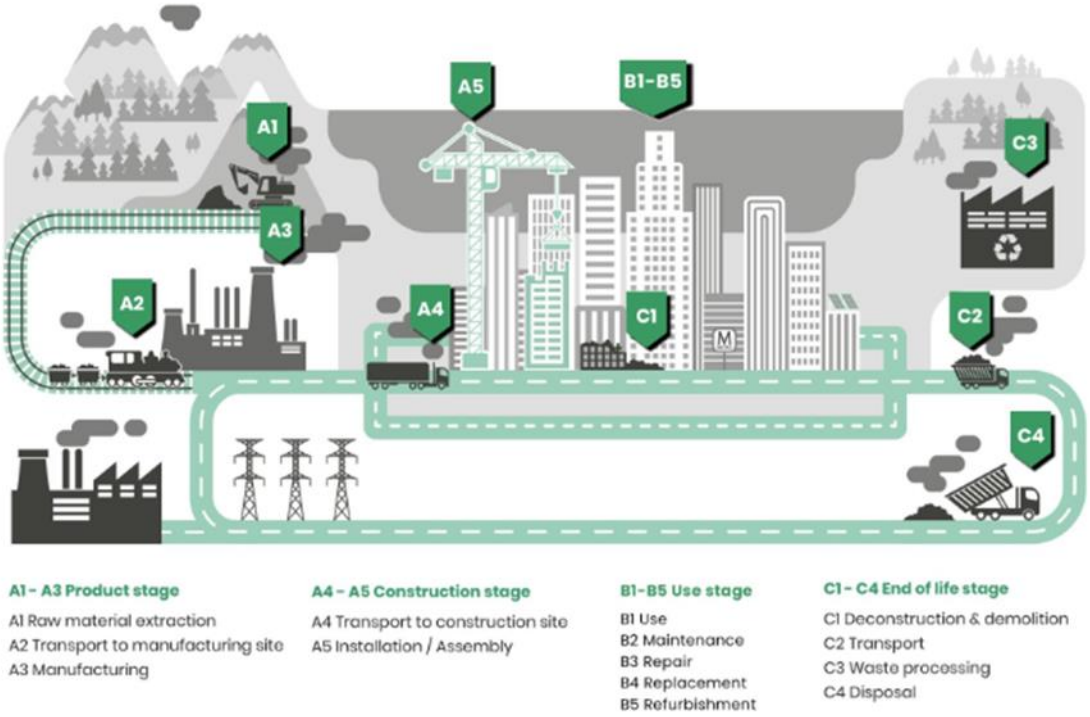

Figure 4 Codes and meaning of typical lifecycle stages of LCA

The LCI shall be set up based on the most up to date Ecoinvent or similar database.

4.3.1.2 Deliverables

The deliverables are summarized into the following.

a. Verified and validated LCA reports of all items.

b. A clear overview of the types and quantities of materials (Raw Material Passport)

c. Output LCA software.

d. Categorizations (i.e., Primary or Secondary data).

Category	**Detail**	**Item Description**
Scope	A1 to B2; C3, C4 & D	EPD Measurement Categories
Required output	Yes	*Raw Material/Product Passport*
	Yes	PER (Product Environmental Report) Type II environmental declaration (ISO14021) (indicate Product Category Rules)
	Yes	LCA (Life Cycle Assessment) report (ISO14040 series).
	Yes	EPD (Environmental Product Declaration) Type III environmental declaration (ISO14025).
	Good to have	*Life Cycle Inventory*

4.3.1.3 Scope of the calculation

The extent of the scope is described by the type of equipment included and the different life cycle stages covered. The exact phases to be covered are as follows. The Scope for LCA includes phase A1, A2, A3, A4, A5, B1, B2, C3, C4 & D in line with ISO 14040:2006. Please refer to Appendix-2 for reference template on life-cycle inventory datasheet.

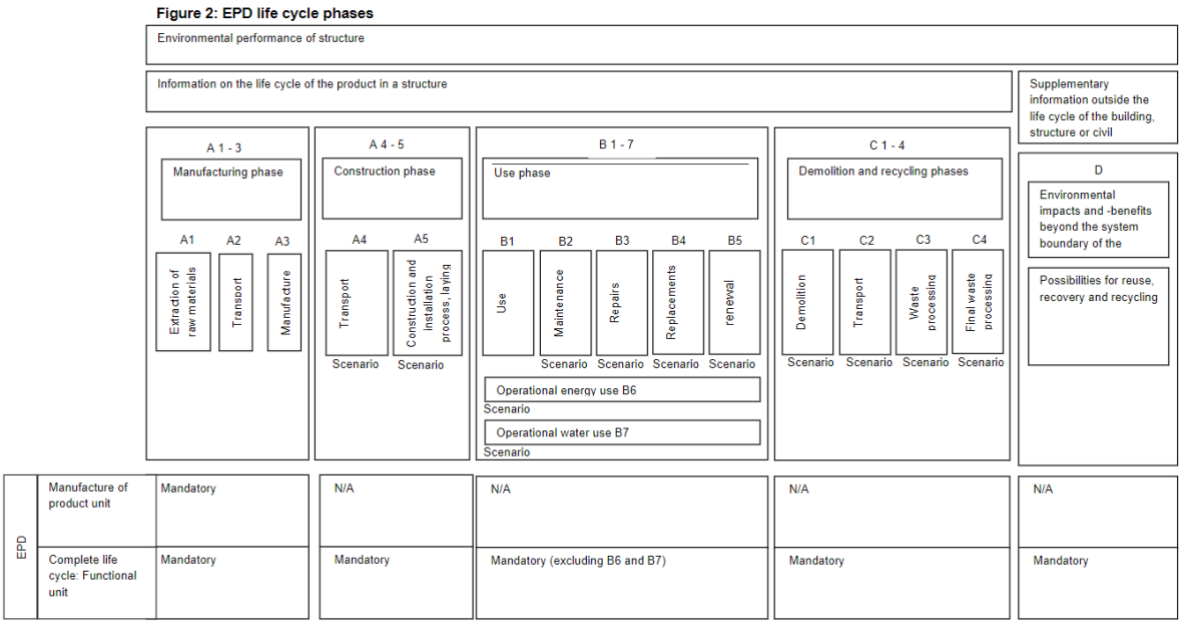

Figure 5: EPD/LCA Phases

4.3.2 RAW MATERIAL Passport

Increasing depletion of metal ore quality, considerable embodied emissions in materials and increasing amounts of waste call for a more circular use of materials. In a circular economy, products are designed in a way that materials can be economically recovered at the end of life and reused in similar or other products. GSI manufacturing supply chain operations are enabling such practices where suppliers must provide a raw material passport for equipment/material used detailing the types and quantities of materials, recycled material content, recyclability and origin.

4.3.2.1 Scope

The raw material passport is to be completed for all internal and external suppliers of equipment/parts/material listed in the tender and those supplying equipment to the GSI Projects & Manufacturing facilities need to fill out the template provided by GSI (Please refer to Appendix-1).

Materials in scope that need to be reported are five key metals (steel, copper, aluminum, lead and zinc) for all metal components that are part of the Permanent Works. Further in scope are any larger quantities of materials known to have a high environmental impact (e.g., large amounts of paint or plastic).

Indicate the source of the data provided for each material. This can be categorized as follows:

a. Primary Data: Measurements obtained directly by the supplier.

b. Secondary Data: Information obtained from the supplier's own suppliers.

c. Tertiary Data: Generic sector-specific information or industry averages.

If any uncertainties exist (e.g., the origin of a material), these uncertainties should be indicated, and a best guess made. The reported quantities should be as accurate as possible but may exclude smaller parts and pieces (e.g., anything weighing less than 10 kg) – a decision can be made based on reasonable effort to obtain the data.

4.3.2.2 Monitoring & Reporting

Inside the template, suppliers shall report the following data:

a. Weight Information: Please specify total weight, the weight of each raw material used in the production of the product. This information helps us understand the overall material consumption and assess the potential environmental impact.

b. Percentage of Recycled Material: Indicate the percentage of recycled material used in the production process. This data allows us to track our progress in incorporating recycled materials and reducing our reliance on virgin resources.

c. Percentage of Recyclability: Provide the percentage of recyclability for each material, indicating how easily it can be recycled. This information helps us optimize the recyclability of our products and minimize waste.

d. Origin of Material: Please specify the origin of each material used. This information allows us to evaluate the environmental impact associated with transportation.

e. End of life management: Please specify % of non-recyclable waste and waste management options.

4.3.3 End of life management

All suppliers must provide an end-of-life leaflet which specifies the preferred end-of-life solution for each material. The manual should describe for the product and its accessories:

1. The detailed description of the product and accessories
2. The material content: Information about the material types present and the rough percentages of material categories.
3. The dismantling scenario: Instruction for disassembly and feasibility for recycling of each material.
4. The Waste management options: Include feasibility on incineration, landfill, or recyclability. The recommended disposal routes and any treatment required (e.g., hazardous waste).

4.4 Thrive:

We are committed to a pathway of continuously improving our impacts on our people, communities, and planet. This means advancing safe, responsible, and equitable working conditions in our operations and across our value chain. We believe that diversity, ethics, and integrity are essential to powering tomorrow.

We aim to ensure all suppliers use ethical and safe practices, in line with international standards for human rights. Our Supplier Responsibility Governance (SRG) program requires audits and assessments at supplier manufacturing sites. We work with suppliers to share best practices, help build capability, and correct issues identified with sustainable long-term changes. It is our responsibility to make sure that those who work on our behalf within our value chain uphold our human rights commitments.

4.4.1 Human Rights Management

GSI Suppliers & Subcontractors are expected to conduct their business while respecting and honoring individuals and their human rights, informed by the United Nations Guiding Principles on Business and Human Rights. Subcontractors shall comply with all laws and applicable principles pertaining to human rights, including but not limited to, the United Nations Universal Declaration of Human Rights, the International Labor Organization (ILO) Core Conventions / Declaration on Fundamental Principles and Rights at Work, also including the provision of quality work conditions and labor principles related to freedom of association, non-discrimination, and prohibition of forced labor, human trafficking, and child labor.

4.4.1.1 Reporting Evidence & Frequency:

The GSI suppliers are required to provide yearly risk assessment on actual or potential human rights, environmental impacts and statistics on findings as described under Section B- Sustainable Development and Just Transition.

1. Policy commitment on human rights management signed by senior leadership.
2. Due Diligence: The Supplier shall carry out Human Rights Due Diligence on an ongoing basis, in order to understand the most salient human rights risks and identify, prevent, mitigate and account for adverse human rights impacts.
3. Tracking and monitoring: The Supplier shall track the effectiveness of actions taken by the Supplier by means of appropriate qualitative and quantitative indicators and feedback from both internal and external sources, including affected stakeholders.
    a. Such indicators shall include but not limited to:-

Category	Indicator	Frequency	Data Source
1. Worker Profile	How many workers are there on the worksite month wise?	Quarterly	Subcontractor HR data records
	a. Total Workers		
	b. Female Workers		
	c. Migrant Workers		
2.Grievance Mechanism	Total no. of grievances received by type	Quarterly	Subcontractor concerns/grievance database

	Percentage of identified grievances resolved		

4. Effective Remediation: The Supplier shall, in case of findings of human rights impacts (caused or contributed to by the Supplier) provide for or cooperate in their remediation through legitimate processes and shall inform and keep the Company up to date about the efforts, Supplier can and is willing to perform and take the necessary steps to cease or prevent the impact.

5. References, Definitions & Acronyms

5.1 Definitions & Acronyms

If any term in this document is also defined in [2], and that definition is different to the following, the definition from [2] shall be considered authoritative.

Abbr.	Term	Definition
GSI	Grid Systems Integration	Grid Systems Integration business line part of Grid Solutions, part of GE Vernova
LCA	Life Cycle Assessment	An LCA is an environmental sustainability assessment of a product or service that is conducted according to the ISO standard 14040.
HV	High voltage	This term is used to describe high voltage equipment
SRG	Supplier Responsibility Governance	Policy and program by GE Vernova to ensure suppliers engage in responsible business conduct and adhere to human rights
SQA	Supplier qualification audits	Activity to evaluate suppliers on a range of criteria, including human rights.
GoO	Guarantee of Origin	Energy attribution certificate for renewable energy used in the European market.
GHG	Greenhouse gas	This refers to gases that have a global warming impact due to their ability to absorb and reflect heat in the atmosphere.
LCI	Life Cycle Inventory	This refers to various inputs and outputs of product (Energy, water, etc..)

5.2 References

The following documents are referenced in the requirement text as Applicable Document.

Document number	Title
EN 15804	Environmental Product Declaration (EPD) standard for the sustainability of construction works and services

Document number	Title
EN-ISO 14064-1	Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
EU Directive 2009/28/EC	Directive on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC
ISBN 1-56973-568-9	GHG Protocol Corporate Standard
ISO 14040	Environmental management — Life cycle assessment — Principles and framework

5.2.1 Directive sources

- 2006/66/EC Directive 2006/66/EC on batteries and accumulators. Brussels, Belgium: European Parliament and European Council.
- 2008/98/EC Directive 2008/98/EC on waste (Waste Framework Directive). Brussels, Belgium: European Parliament and European Council.
- 2009/125/EC Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products. Brussels, Belgium: European Parliament and European Council.
- 2011/65/EU Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast). Brussels, Belgium: European Parliament and European Council.

5.2.2 Standards

- ACLCA 2019Guidance to Calculating Non-LCIA Inventory Metrics in Accordance with ISO 21930:2017. American Centre for Life Cycle Assessment. United States.
- EC 1907/2006 Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Brussels, Belgium: European Parliament and European Council.
- EN 15804:2012 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. Brussels, Belgium: European Committee for Standardization.
- EN 15804+A2: 2019 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. Brussels, Belgium: European Committee for Standardization.
- EN 50598-1 Ecodesign for power drive systems, motor starters, power electronics & their driven applications - Part 1: Procedure for setting energy efficiency requirements of motor driven applications by using the extended product approach and semi analytic models. Brussels, Belgium: European Committee for Standardization.
- EN 50598-3 Ecodesign for power drive systems, motor starters, power electronics & their driven applications - Part 3: Environmental aspects and product declaration for power drive systems and motor starters. Brussels, Belgium: European Committee for Standardization.

- GHG Protocol (2011) Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Standard. WRI & WBCSD: Washington, DC, USA and Geneva, Switzerland.
- IEC 62430:2009 Environmental conscious design for electrical and electronic products. Geneva, Switzerland: International Electrotechnical Commission.
- IEC 62474:2012 Material Declaration for Products of and for the Electrotechnical Industry. Geneva, Switzerland: International Electrotechnical Commission.
- IEC TR 62650 Guidelines for End of Life information provision from manufacturers and recyclers, and for recyclability rate calculation of Electrical and Electronic Equipment. Geneva, Switzerland: International Electrotechnical Commission.
- IEPDS, 2019 General Programme Instructions, Version 3.01. 2019-09- 18. The International EPD® System: Stockholm, Sweden.
- IEPDS, 2021 PCR 2019:14 Construction Product, Version 1.11. 2021- 02-05. The International EPD® System: Stockholm, Sweden.
- ISO 14021:2016 Environmental labels and declarations – Self-declared environmental claims (Type II environmental labelling). Geneva, Switzerland: International Organization for Standardization.
- ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – Principles and procedures. Geneva, Switzerland: International Organization for Standardization.
- ISO 14040:2006 Environmental management – Life cycle assessment – Principles and framework. Geneva, Switzerland: International Organization for Standardization.
- ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines. Geneva, Switzerland: International Organization for Standardization.
- ISO 21930:2017 Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services
- ISO 25745- 1:2012 Energy performance of lifts escalators and moving walks — Part 1 — Energy measurement and verification.

6. Revision table

Revision	Reason for change	Author	Approved by	Date issued
1.0	First Issue	N. Shah	L. Bastard	28.01.2025

7. APPENDIX(ES)

Document number	Title
Appendix-1	PO-GSI-SUS-001-A1_GSI Raw Material Passport Template
Appendix-2	PO-GSI-SUS-001-A2_GSI LCI Template

End of Document