THE FASHION PACT

DECARBONISATION ACCELERATOR FRAMEWORK

METHODOLOGY

This document presents the methodology behind the Decarbonisation Accelerator Framework developed under The Fashion Pact European Accelerator. The framework helps fashion and luxury suppliers self-assess their production sites through two complementary dimensions: GHG-related governance, and actual decarbonisation progress. It translates site-level questionnaire responses into four progress levels, adapted by manufacturing cluster, process type and company size. The document also explains the supporting Playbook and Case Studies designed to help suppliers move from self-assessment to action.

The Fashion Pact (TFP) is a global non-profit collective of fashion and textile brands, led by their CEOs, working towards a net-zero and nature-positive future through four areas of action. Within these areas, TFP advances its strategy through CEO-led Joint Actions. One of these is the European Accelerator (EA), launched to accelerate decarbonisation in fashion and luxury production, with an initial focus on Italy given its weight in the European Accelerator participating brands' supply chain.

The European Accelerator (EA) is structured around three interconnected workstreams. Firstly, the Accelerator engages the luxury fashion industry around an optional and non-exhaustive questionnaire for suppliers on relevant environmental data. This workstream aims to strengthen the quality and consistency of environmental metrics while easing the administrative burden of supplier reporting. The Accelerator also aims to strengthen suppliers' capacity to identify efficiency-improvement opportunities and increase renewable-energy uptake.

Secondly, to support these objectives, the European Accelerator has developed the **Decarbonisation Accelerator Framework**, which is a self-assessment tool that enables suppliers to map climate progress based on GHG-related governance and decarbonisation initiatives. Recognising that finance remains one of the most significant hurdles to progress, the European Accelerator will also work to open pathways for suppliers to access the investment needed to adopt cleaner technologies and drive long-term transformation.

The Framework positions each supplier site on a two-axis matrix, combining GHG-related governance with decarbonisation progress, and translates this positioning into one of three levels (L1, L2a, L2b, L3). Parameters, weights and scoring are adapted by manufacturing cluster and company size. The framework was developed through workshops with participating brands, a benchmark analysis of existing sustainability frameworks and a pilot with a selection of Italian suppliers.

The Framework is complemented by a Decarbonisation Playbook and a set of Case Studies, both aimed at supporting suppliers in progressing along the decarbonisation journey. This document describes the methodology behind the framework's design, structure and scoring logic, and the pilot and consultation process that shaped its final version.

The Decarbonisation Accelerator Framework is a voluntary self-assessment tool. It does not require suppliers to make any investment nor to adopt any technology. Furthermore, the results of the Decarbonisation Accelerator Framework are strictly confidential, and the European Accelerator will not create a shared supplier database.

The methodology is presented in five parts: the design principles that shaped the framework, the two-axis matrix used to position the manufacturing sites, the parameters and applicability logic behind the questionnaire, the scoring methodology used to translate responses into levels, and the complementary tools that support supplier actions.

Table of contents

1 Introduction....4
2 Framework design principles....6
3 The Decarbonisation Accelerator matrix....7
4 Parameters and questionnaire design....10
5 Scoring methodology....13
6 Complementary supporting tools....15
7 Limitations and future development....17
8 Glossary....18

1 Introduction

Manufacturing processes within the fashion supply chain may represent a hotspot for greenhouse gas emissions, water use and pollution. The environmental relevance of each process depends on the manufacturing activity involved, such as weaving or dyeing, and on the materials processed, including synthetics, animal fibres or other inputs.

This Framework focuses specifically on decarbonisation. It is intended to help suppliers clearly understand where they stand in their decarbonisation journey and identify individually the most relevant next steps to progress while balancing environmental impact, technical feasibility, and economic impact.

Suppliers across the fashion and luxury value chain differ widely in how they approach decarbonisation: some have built strong environmental governance, but have made limited progress in actually reducing emissions, while others are cutting emissions without yet having formalized reporting or targets in place.

The Framework has been developed to address this gap, as part of The Fashion Pact's European Accelerator. It provides a structured, yet voluntary, way for suppliers to determine where they stand on their decarbonisation journey, distinguishing the strength of their GHG-related governance from their actual progress in reducing emissions.

The Framework has been developed with the support of technical expert Quantis with input from key industry stakeholders including Confindustria Moda, Istituto di Certificazione della Qualità per il Settore Conciario (ICEC), and Consorzio Physis.

Ambition

The Framework is intended as an individual diagnostic and capacity-building tool.

Rather, the ambition is to:

1. **Provide a common language to assess decarbonisation progress**

   Brands and suppliers will share a common language to describe on GHG-related governance and decarbonisation.

2. **Distinguish GHG – related governance from actual decarbonisation progress**

   Suppliers will be able to self-assess and understand if GHG-related governance translates into measurable emissions reduction on the ground.

3. **Reflect the diversity of the manufacturing supply chain**

   The Framework adapts its parameters and scoring to the specific processes, technologies and constraints of each manufacturing cluster and company size, avoiding a one-size-fits-all assessment.

4. **Guide suppliers towards higher decarbonisation progress levels**

   Beyond self-assessment, the Framework is designed to be actionable, pointing suppliers who are interested towards concrete next steps through the accompanying Decarbonisation Playbook and Case Studies.

Supporting tools

The work carried out under this workstream resulted in four key deliverables:

1. **The Decarbonisation Accelerator Matrix** – the matrix and its underlying methodology, described in this document
2. **The Governance Playbook** – guidance on how to strengthen internal coordination on GHG topics and support progress in carbon accounting and monitoring.
3. **The Decarbonisation Playbook** – cluster-and size-specific guidance to provide an overview of implementable decarbonisation interventions and technologies.
4. **A set of Case studies** – real examples of suppliers who have reached advanced levels of decarbonisation progress, illustrating that progress is both technologically and economically feasible.

The Decarbonisation Accelerator Framework includes the optional harmonized data collection questionnaire developed under the first workstream of the European Accelerator, which is available for suppliers to report on energy, waste and water. The following chapters focus on the design, structure and methodology of the Decarbonisation Accelerator Framework itself. The Playbook and Case Studies are introduced in more detail later in this document.

2 Framework design principles

A benchmark analysis of main existing framework from fashion and other industries were carried out as a preliminary step. Building on this benchmark analysis, three foundational principles guided every subsequent design decision behind the Decarbonisation Accelerator Framework.

Open-source, simple to use, and built on ready-to-use parameters. The Framework is designed to avoid requiring suppliers to set up new data infrastructure or collect information they do not already have readily available, keeping the assessment accessible regardless of a supplier's size or existing reporting capabilities.

A cluster- and size-agnostic structure, applied in a cluster-and size-specific way. The same underlying matrix logic based on two axes and three levels, is applied consistently across all clusters and company sizes, while the specific parameters, weights and applicability rules populating that structure are tailored to each cluster's processes and technologies (for the Decarbonisation Progress axis) and to company size (for the GHG-related governance axis).

A carbon focus, built on information collected at site-level. The Framework concentrates specifically on GHG-related governance and decarbonisation progress, rather than attempting to cover the full range of environmental topics and relies on data gathered directly from individual manufacturing sites by suppliers.

3 The Decarbonisation Accelerator matrix

The Decarbonisation Accelerator Framework enables each supplier to position its sites on a two-dimensional matrix, combining the strength of its GHG-related governance with its actual progress in reducing emissions. The Framework is applied at site-level, meaning a company operating multiple production sites will therefore receive a separate result for each site. This reflects the fact that governance structures and decarbonisation progress can vary significantly from one site to another, even within the same company. This chapter describes the two axes of the matrix, the resulting levels of progress, and the manufacturing clusters used to tailor the assessment to each supplier's specific context.

The two axes

The level assigned to a supplier site should be read by the supplier as a snapshot of its current decarbonisation maturity, not as a permanent classification. A site can move between levels over time as GHG-related governance improves, data quality strengthens and decarbonisation actions are implemented.

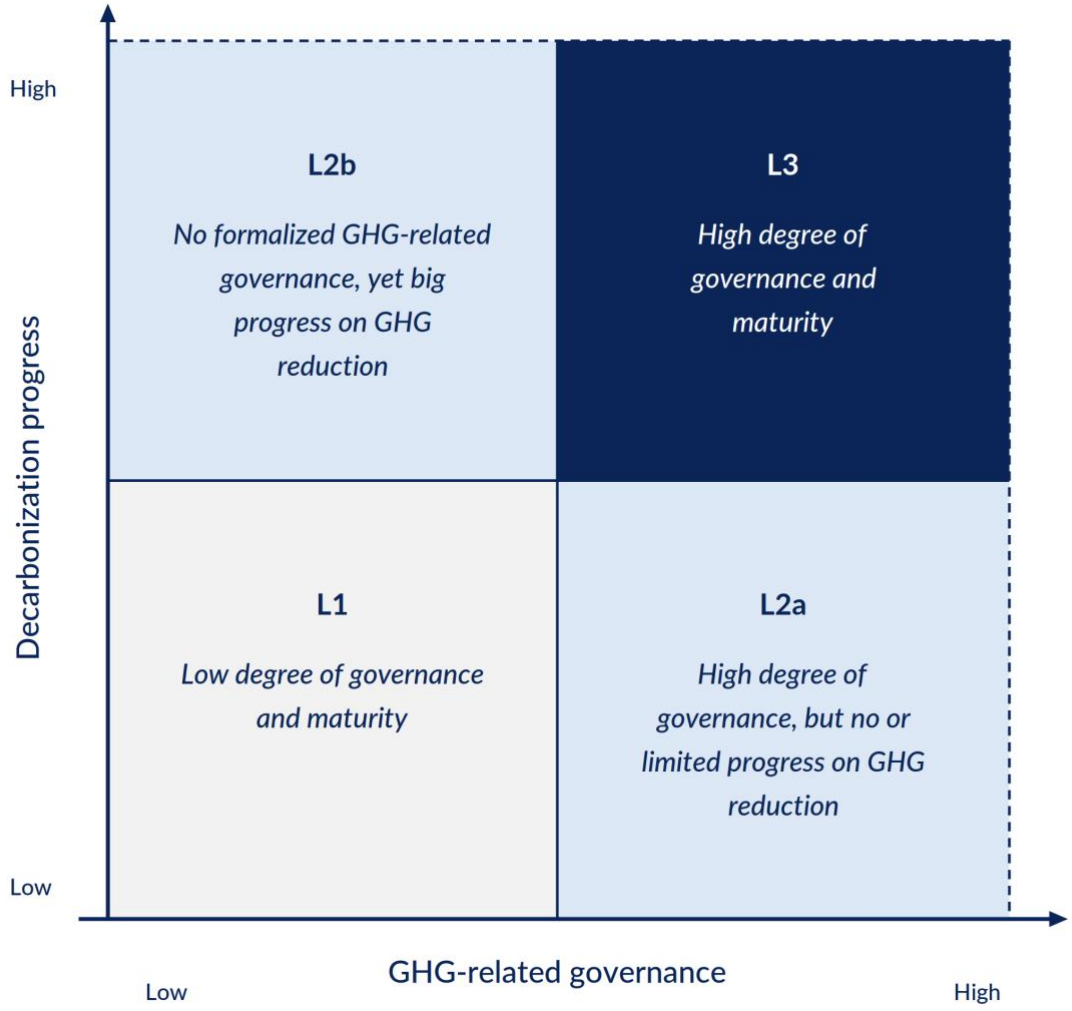
- **GHG-related governance (X-axis)**: the degree to which a company has formalized its GHG-related governance structure, including dedicated environmental personnel, emissions accounting, energy assessments, targets, public disclosure and alignment with the Science Based Targets initiative (SBTi).
- **Decarbonisation progress (Y-axis)**: the concrete actions a company has taken to reduce emissions, related to renewable electricity, electrification, energy efficiency, sustainable materials, chemicals management and process innovation.

These two dimensions are deliberately kept separate rather than merged into a single score. This choice preserves the diagnostic value of the Framework for the supplier: a supplier site can have strong governance in place but limited decarbonisation progress, or vice versa, and the Framework is designed to make this distinction visible rather than average it away.

Levels of progress

The two-axis matrix defines four possible profiles:

- **L1 – Low governance, low decarbonisation progress**: limited or no formalized environmental governance, and limited concrete decarbonisation action.
- **L2a – High governance, limited decarbonisation progress**: formal governance structures are in place, but this has not yet translated into significant emissions reduction.
- **L2b – Limited governance, high decarbonisation progress**: significant progress on decarbonisation, without yet being supported by formalized governance.
- **L3 – High governance, high decarbonisation progress**: both formal governance and concrete decarbonisation action are well established.



Manufacturing clusters

As decarbonisation levers and challenges vary significantly depending on the type of manufacturing process, the Framework applies its logic through six manufacturing clusters:

1. Tanneries with wet processes – includes any tannery step involving submersion, wet chemical baths, or liquid effluent generation, such as tanning and retanning operations, and other processes, e.g., soaking, liming, and dyeing.
2. Fiber, yarn and textile manufacturing with wet processes – includes companies that produce or treat fibers, yarns, or fabrics using water-based steps such as scouring, bleaching, dyeing, printing, or wet finishing. Applies to spinning, weaving, or knitting mills that also run any water-based treatment stage.
3. Fiber, yarn and textile manufacturing without wet processes – includes producers of fibers, yarns, or fabrics through mechanical/dry operations only, e.g., carding, spinning, weaving, knitting, etc., with no water-based treatment step in-house.
4. Metal, plastic and other accessories with wet processes – includes manufacturers of trims, hardware, or components (zippers, buttons, buckles, etc.) using wet chemical steps such as electroplating.
5. Metal, plastic and other accessories without wet processes – includes manufacturers of trims, hardware, or components through processes that do not require water for process use.

6. Finished product and others – cut-and-sew, assembly, labelling, embroidery (dry), or other support activities that do not involve water-based processing. Includes companies producing products such as garments, bags, accessories, shoes etc.

Cluster definitions were reviewed based on criteria such as carbon impact and decarbonisation challenge. Traders are not treated as a distinct cluster; rather, they are encouraged to cascade the questionnaire to their own supply chain. Tanneries limited to finishing processes are classified under the finished product cluster.

Company size

Because governance capacity and resources typically scale with company size, the Framework distinguishes between SMEs and large companies when assessing the GHG-related governance axis. A company is classified as large if it has more than 250 employees or more than €50 million in annual revenue; all other companies are classified as SMEs. Two governance questions related to Scope 3 emissions from purchased chemicals apply specifically to large companies running wet processes, given their particular relevance to chemical-intensive operations.

4 Parameters and questionnaire design

Each axis of the matrix is populated by a set of parameters, tailored to its own context: the progress axis reflects the specific processes and technologies relevant to each manufacturing cluster, while the governance axis reflects constraints relevant to company size[1]. Most of these parameters draw on questions already present in the optional harmonized data collection questionnaire; in addition, a number of new questions were specifically added in the Facility Info and Energy tabs to capture the information needed to calculate the framework's GHG-related governance and decarbonisation progress parameters. This chapter lists the main parameters used for each axis and describes the applicability logic that governs how they are assigned.

Applicability logic

A set of ground rules governs how parameters are assigned across suppliers:

- X-axis (GHG-related governance) parameters are adapted based on company size (small-medium enterprise vs. large company).
- Y-axis (decarbonisation parameters are adapted based on the type of processes carried out (wet vs. non-wet processes), reflecting the manufacturing cluster.
- Where applicable, thresholds are used for performance-related parameters, awarding more points for higher levels of adoption (e.g., more points for a supplier covering 100% of its needs through renewable sources than for one covering a smaller share).
- Some parameters reward a positive answer without penalizing a negative one, reflecting that certain actions (e.g., SBTi alignment) are not equally relevant or achievable across all supplier profiles.
- The two axes do not include the same number of parameters, and the number of parameters also varies by cluster: wet-process clusters, in particular, are assessed against a higher number of parameters than non-wet-process ones.

GHG-related governance parameters:

Parameters	Applicability
Dedicated sustainability person and/or team	All
Monitoring of energy consumption (at least on an annual basis)	All
Scope 1 & 2 GHG emissions calculation	All
Energy assessment performed in the last 4 years	SME only

[1] Two governance questions related to purchased-chemicals emissions (Scope 3) apply only to large companies with wet processes, given their specific relevance to chemical-intensive processes.

Parameters	Applicability
Energy management system aligned with ISO 50001	Large companies only
GHG target setting on Scope 1 & 2	Large companies only
Alignment of targets with the Science Based Targets initiative (SBTi)	Large companies only
Sustainability public reporting	Large companies only
Scope 3 impact related to chemicals purchased	Large companies with wet processes only
GHG target setting on Scope 3 related to chemicals purchased	Large companies with wet processes only

Decarbonisation progress parameters:

Parameter	Applicability
Purchase of renewable electricity through market-based instruments (e.g., through GOs, RECs)	All
Subscription of virtual Power Purchase Agreement	All
Production of renewable electricity through renewable sources (e.g., photovoltaic, physical Power Purchase Agreement)	All
Building Energy Management System (BEMS)	All
Relamping (LED lighting)	All
Use of high-efficiency electric motors (e.g., IE3 or IE4)	All
Installation of inverters (VSDs) in machinery	All
Optimization of compressed air systems	All
Heat recovery from air compressors	All
Thermal energy source for space heating and domestic hot water (DHW)	All
Ironing/pressing technology primarily used, and steam generation method	Finished product cluster only
Primary thermal carrier and generation method for hot water/steam in processes	Wet-process clusters only

Parameter	Applicability
Heat recovery from wastewater streams	Wet-process clusters only
Chemicals dosing method	Wet-process clusters only
Chemical recovery & reuse in wet processes	Wet-process clusters only
Heat recovery from air/process streams (e.g., dryers, stenters)	Tanneries and fiber/yarn/textile manufacturing with wet processes
Partial electrification of drying activity	Tanneries and fiber/yarn/textile manufacturing with wet processes
Dyeing technique	Fiber/yarn/textile manufacturing with wet processes only
Adoption of PVD in place of traditional electroplating processes	Accessories with wet processes only
Recycled metal use in electroplating	Accessories with wet processes only
Tanning/re-tanning processing technologies	Tanneries only

5 Scoring methodology

Scoring logic

Each of the two axes (GHG-related governance; decarbonisation progress) is scored on a 0 - 100% scale. For every parameter, the points assigned represent the maximum achievable score (eligible score), while the supplier's actual answer generates the confidential score achieved. For each site, the sum of the scores achieved across all applicable parameters is divided by the sum of the eligible scores for those same parameters, producing a percentage score for that axis. Parameters that are not applicable to a given site (e.g., because of its company size or process type) are excluded from both the numerator and the denominator, so that a supplier can self-assess against the parameters that are relevant to its profile. The accuracy of the resulting score depends on the completeness and reliability of the data provided by each site. Where responses are incomplete or inconsistent, the result should be interpreted with caution.

Weighting approach

Not all parameters carry the same weight. The score assigned to each parameter reflects its expected contribution to GHG-related governance or decarbonisation progress, and this weighting varies along two dimensions:

- **By company size** – SMEs and large companies are assessed against a different set of applicable parameters and different maximum achievable scores (see Chapter 5).
- **By manufacturing cluster** – the relative importance of a given lever can differ depending on the cluster. For example, the adoption of heat pumps for space heating is weighted more heavily for clusters without wet processes than for wet-process clusters, because in wet-process clusters (e.g., tanneries, wet textile finishing), energy demand is dominated by process heat and water heating rather than space heating, so decarbonisation levers targeting process energy (e.g., electrification of wet processes) have a proportionally larger impact on emissions than heat pumps for space heating alone.

Weights were calibrated iteratively throughout the development process, informed first by the benchmark analysis, then stress-tested during the pilot phase and further refined based on direct feedback from key stakeholders.

Example of parameter scoring: for the parameter "Purchase of renewable electricity from the grid," the eligible score (maximum achievable) is 2 points, awarded according to the share of purchased electricity that is renewable:

Decarbonisation progress questions	Answers	Scoring achieved	Eligible scoring
Purchase of renewable electricity from the grid	0%-30%	0	2
	31%-75% of the purchased electricity is renewable	1	
	> 75% of the purchased electricity is renewable	2	

From score to level

Each supplier site's two percentage scores, on the GHG-related governance axis and on the decarbonisation progress axis, are plotted on the matrix. The quadrant in which a site falls determines its level (L1, L2a, L2b, or L3), as described in Chapter 4.

6 Complementary supporting tools

Beyond the matrix itself, the Decarbonisation Framework workstream produced three additional tools, designed to help suppliers translate their assessment results into concrete action: the Governance Playbook, the Decarbonisation Playbook and a set of Case Studies.

Governance Playbook

The Governance Playbook consists of a list of actions meant to support suppliers to improve the capacity to handle GHG-related topics, for example, by appointing a sustainability reference, through energy and carbon accounting (scope 1, 2 and 3), target setting, etc. Responses provided in the questionnaire automatically grey out actions that are either not applicable or already implemented, so that each supplier receives only relevant recommendations.

Each action is described through a consistent set of attributes:

- **Action** – the name of the identified action, e.g., dedicated HSE/sustainability person or team.
- **Description** – a short explanation of what the action involves.
- **How to guidance** – high level explanation on how to implement the initiatives, including information on existing protocols, best practices, etc.
- **Useful links/external resources** – list of useful liks to know more, where available.

Decarbonisation Playbook

The Decarbonisation Playbook is designed to showcase, for each supplier, the priority actions available to be considered to progress further in its decarbonisation journey. Based on the responses provided in the questionnaire, actions that are either not applicable to a given site or already implemented are automatically greyed out, so that each supplier receives a personalized view of the decarbonisation priorities still relevant to it.

The Playbook consists of a structured list of decarbonisation actions. While several actions are broadly applicable across clusters, the list also includes cluster-specific actions relevant to particular manufacturing processes (e.g., innovative tanning/re-tanning technologies for tanneries, or advanced dyeing technologies for textile wet processes).

Each decarbonisation action is described through a consistent set of attributes:

- **Action** – the name of the decarbonisation initiative (e.g., purchase of renewable electricity from the grid, electrification of process hot water with heat pumps, LED relamping, automatic chemical dosing).
- **Key category** – actions are grouped into five categories: renewable energy, energy efficiency, electrification (of space heating, process heat and domestic hot water), sustainable chemicals management, and process innovation.
- **Description** – a short explanation of what the action involves and, where relevant, its expected benefits (e.g., emission reductions, cost savings, or operational advantages).
- **Emission reduction potential** – the expected effect on Scope 1 and 2 emissions, expressed on a low/medium/high scale.

- **Type of effort for implementation** – the nature of the action, distinguished across three categories: quick wins (common, low-budget solutions with short payback times, such as LED lighting or energy efficiency measures), transformative actions (initiatives requiring substantial R&D or investment, such as power purchase agreements or process electrification), and structural actions (technologically feasible but requiring more substantial adjustments to existing manufacturing setups, such as heat recovery systems or on-site photovoltaic installations).
- **Estimated investment** – an indication of the economic investment required; a site-specific energy assessment and feasibility study is needed to estimate the actual investment range, since this depends strongly on company size and the scale of the measure.
- **Average payback time** – the estimated time, in years, required to recover the initial investment through energy and cost savings compared to the previous situation.

The Playbook is voluntary, non-binding, and does not require suppliers to adopt any technology reported, and/or change purchasing/sourcing decisions.

Case studies

The Case Studies showcase real examples of suppliers who have reached advanced levels of overall progress, both on governance and decarbonisation, combining aspirational content (such as strategic vision and quotes from company management) with technical and financial insight into the decarbonisation initiatives implemented. Each case study follows a common three-part structure:

- **Context** – the type of company, a description of its key processes and basic site information.
- **Best-practice spotlight** – the supplier's overall high-level environmental strategy and governance model, a selection of non-confidential decarbonisation initiatives worth sharing, the associated estimated financial benefits (highlighted in a dedicated box), and the key challenges encountered along the way, together with lessons learned.
- **Looking ahead** – actions already planned in the near and medium term.

7 Limitations and future development

The Decarbonisation Accelerator Framework represents a first, structured approach enabling suppliers to self-assess how advanced decarbonisation is across the fashion manufacturing supply chain, and it is expected to evolve as it is applied more broadly. A few limitations are worth noting.

Geographic scope. The Framework was developed with an initial focus on Europe, given its weight in European Accelerator brands' manufacturing supply chains. Extending its use to other geographies may require reviewing certain parameters and thresholds, particularly those tied to specific regulatory contexts.

Cluster and parameter refinement. Manufacturing clusters and their associated parameters were defined based on the processes and technologies considered most relevant at the time of development. As the Framework is applied to a wider and more diverse set of suppliers, some cluster definitions, parameters or weights may need to be revisited to ensure they continue to reflect the reality of the supply chain.

Regulatory alignment. Some parameters are explicitly linked to current regulation, such as the EU Energy Efficiency Directive (2023/1791). As thresholds and obligations under this and other regulations evolve over time, the Framework will need to be periodically reviewed to remain aligned with legal requirements and to avoid penalizing or over-crediting suppliers based on outdated criteria.

8 Glossary

BEMS (Building Energy Management System): An intelligent system integrating hardware and software to monitor, control and optimize a site's energy consumption.

Cluster: A grouping of manufacturing suppliers sharing similar processes and technologies (e.g., tanneries, textile manufacturing with wet processes, metal and plastic accessories), used to tailor the framework's parameters and scoring.

GHG Protocol: The Greenhouse Gas Protocol Corporate Standard, the internationally recognized methodology for calculating and reporting corporate greenhouse gas emissions.

GO (Guarantee of Origin): A certification confirming that a given unit of electricity was produced from renewable sources.

ISO 50001: An international standard specifying requirements for establishing, implementing and maintaining an energy management system.

Level: The classification (L1, L2a, L2b, L3) assigned to a supplier site based on its position on the matrix, reflecting the combination of its GHG-related governance score and its decarbonisation progress score.

PPA (Power Purchase Agreement): A long-term contract to procure electricity directly from a renewable energy generator at a fixed price; it can be physical (connected to the buyer's site) or virtual (VPPA), where electricity is received through the grid rather than a direct connection.

PVD (Physical Vapour Deposition): A surface treatment technique used as an alternative to traditional electroplating, eliminating the need for a chemical bath and associated wastewater treatment.

REC (Renewable Energy Certificate): A market-based instrument certifying that a given amount of electricity has been generated from renewable sources, similar in function to a Guarantee of Origin.

SBTi (Science Based Targets initiative): An organization that validates corporate emissions reduction targets as being aligned with the level of decarbonisation required to limit global warming in line with climate science.

Scope 1, 2, 3 emissions: The three categories of greenhouse gas emissions defined by the GHG Protocol: Scope 1 covers direct emissions from owned or controlled sources; Scope 2 covers indirect emissions from purchased electricity, heat or steam; Scope 3 covers all other indirect emissions occurring in a company's value chain, including those associated with purchased goods and services such as chemicals.

Site: An individual manufacturing facility operated by a supplier; the Decarbonisation Accelerator Framework is applied at site-level, meaning a company operating multiple sites receives a separate result for each one.

VSD (Variable Speed Drive): A device installed on electric motors to adjust their speed to actual load demand, reducing energy consumption compared to fixed-speed operation.

Wet processes: Manufacturing processes that involve the use of water and chemicals, such as dyeing, tanning or washing, typically associated with additional decarbonisation levers (e.g., heat recovery from wastewater, chemical dosing automation) compared to non-wet processes.