

All parameters Product requirements Product metrics Manufacturer requirements Manufacturer metrics

Requirements & metrics Inventory Impact areas



The Science Behind



ESG
score

Why does the sustainability of standard products matter?

Standard products like adhesive tapes, computers, garbage bags, office chairs, and protective gloves are bought millions of times every year. Often with the choice between hundreds, even thousands of similar looking items at every transaction. But in procurement, efficiency rules. The relatively low expenditures per item leave no room for benchmarking their sustainability.

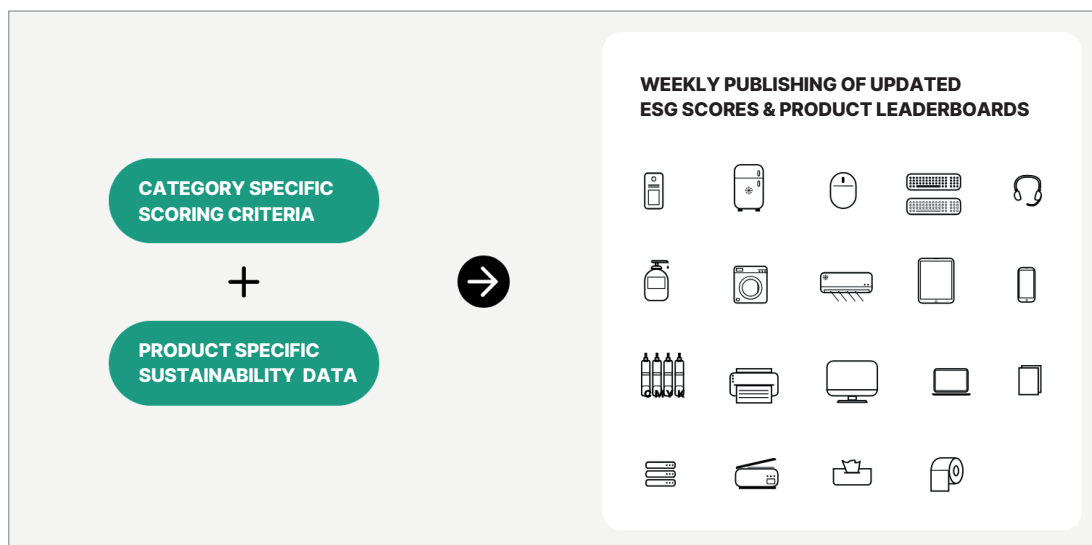
The consequence: Despite the honest intent to procure sustainably and despite billions spent worldwide on standard products, sustainability hardly plays a role in the selection process of standard products.

Wouldn't it be great to have a single, easy-to-understand score with an attractive label that indicates the sustainability of a specific product?

One score that says all

How can a multi-faceted issue, the sustainability of a product, be expressed in a simple numeric value? This is the question everyone asks. Here comes the long and detailed answer.

Each week, we update leaderboards in which products are sorted by sustainability based on their ESG Score, which is calculated with category-specific scoring criteria applied to product-specific sustainability data.



Calculating the ESG Score

1. Points are attributed by applying the category specific scoring criteria to the products' sustainability data profiles.

| Product requirements | Product metrics | Manufacturer requirements |
|---|-----------------|---------------------------|
| Requirement | Value | Points |
| Energy consumption during usage ▾ | | |
| The product has a switch to manually enter the off-mode or an operating mode with a lower power consumption. | requirement met | 100 |
| Product reparability & maintenance ▾ | | |
| The product design takes into account - the use of a consistent screw head design and size throughout, - an easy removal, separation and disassembly of external enclosures, housing parts and other necessary parts without destruction, - not to use composite materials, - to avoid non-detachable material connections between different materials, - the disassembly of connections needs no more than three commonly available tools and - the disassembly by one person alone. | requirement met | 700 |
| The manufacturer and/ or distributor offer detailed online resources for product disassembly, repair, cleaning and parts replacement. The information is freely accessible. | requirement met | 700 |
| Product upgradability ▾ | | |
| The product's main processor is upgradeable. | requirement met | 300 |

2. The highest achieved point sum among the products of the category is determined.

3. The ESG Score for each product is derived from the percentage of the product's point sum compared to the highest point sum. Examples:



The products point sum equals to 100% of the highest point sum



The products point sum equals to 56% of the highest point sum



The products point sum equals to 27% of the highest point sum

Please note: The color code of our labeling shows the top third ESG Scores as green, the middle third as yellow, and the lowest third as red.

Good to know

ESG Score 100

ESG Score 100 and rank 1 can result from being the least bad product without being absolutely sustainable. This best-in-class approach has been chosen after intense discussions with independent experts and leading institutes.



Where do the scoring criteria come from?

For good reasons, most of us trust ecolabels like Blue Angel, Epeat or TCO Certified. These great labels have one thing in common: They are so-called Type I certifications which meet the requirements of ISO 14024. Type I ecolabels are the gold standard and that is why we use their certification award guidelines as a central source for building our master catalog of scoring criteria.

Here's how that unfolds: When we tackle a new product category and identify a relevant certification award guideline, we analyze all chapters and distill product-related as well as manufacturer-related requirements and metrics.

Please look at this excerpt from Blue Angel DE-UZ 219 Edition January 2019:

| 3.1.1.1 Design for disassembly requirements | | | |
|---|---|---|-------------------------|
| The devices must be designed in such a way that they comply with the requirements in the following table: | | | |
| Table 1: Requirements regarding design for disassembly | | | |
| No. | Requirement | Applies to assemblies | Must/should requirement |
| 1 | Parts made of mutually incompatible materials must be separable or connected by separation aids | Casing parts, chassis, electric/electronic assemblies, modules for colourants | Must |
| <i>Explanation: Connections between the casing and chassis, as well as between the chassis and electric/electronic assemblies, are important connections. Their separability is required for the separate reuse/recycling of the assemblies and materials and also for the quick and safe separation of components containing harmful substances. This also applies to glued labels (i.e. company logos and stickers). The term "separation aids" refers to e.g. predetermined breaking points.</i> | | | |
| 2 | Electric/electronic assemblies must be easy to find | Entire unit, including lamps | Must |

From this chapter we have derived scoring criterion 24 in our master catalog:

| ID | Requirement/ metric | Type | Entity | Addressed inventory item |
|----|---|-------------|---------|--------------------------|
| 24 | Parts made of mutually incompatible materials are separable from one another. | requirement | product | Product recyclability |

Our master catalog works a bit like the periodic table in chemistry: The element 'scoring criterion 24' has been captured as product-related requirement that addresses the product characteristic recyclability.

Good to know

1,300+ scoring criteria, and counting

As of September 2024, from analyzing more than 5,000 chapters in the guidelines of Type I ecolabels, we have distilled a meta catalog of currently 1,300 scoring criteria. Metrics from product carbon footprints to the share of recycled content are covered in the ESG Score calculations. As is the fulfillment of product and manufacturer related requirements including whether a product contains selected toxic substances or if a manufacturer meets selected standards on the protection of workers' health and safety.



How do we select scoring criteria for a category?

To understand how we select scoring criteria, you must know that ESG Score maintains “inventory lists” which for each category provide an overview of relevant:

- substances like lead
- substance groups like RoHS
- risk topics like child labor and
- product characteristics like recyclability

These inventory lists are used to pre-filter all scoring criteria from the master catalog which are connected to one of the listed inventory items. Do you remember scoring criterion 24? This shows up as a candidate for all categories which have “product recyclability” on their inventory list.

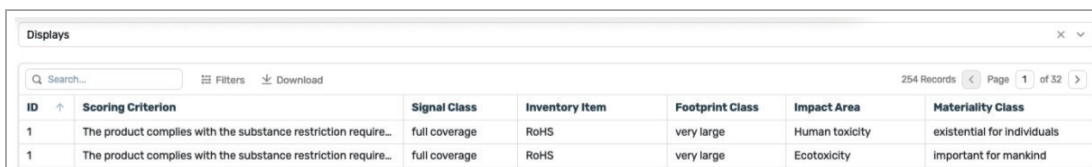
Finally, it’s our team of well-qualified and whole-heartedly committed scoring criteria managers who discuss and decide which of the candidates are chosen.

How do we derive criteria weightings?

The following parameters are used to determine the weightings:

1. **The Signal Class** that a scoring criterion has for a linked inventory item.
2. **The footprint class** of an inventory item in one or more connected impact areas
3. **The Materiality Class** of the linked impact area.

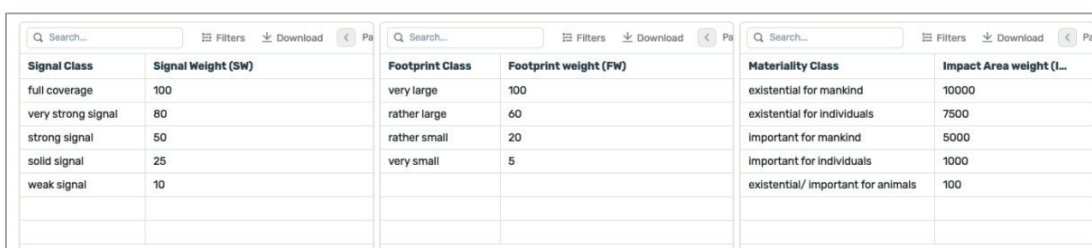
Here’s an example:



| ID | Scoring Criterion | Signal Class | Inventory Item | Footprint Class | Impact Area | Materiality Class |
|----|--|---------------|----------------|-----------------|----------------|-----------------------------|
| 1 | The product complies with the substance restriction require... | full coverage | RoHS | very large | Human toxicity | existential for individuals |
| 1 | The product complies with the substance restriction require... | full coverage | RoHS | very large | Ecotoxicity | important for mankind |

Criterion 1 in the master catalog “The product complies with the substance restriction requirements of the European Union (EU) RoHS Directive and its amendments” is addressing the inventory item RoHS and its signal class is ‘full coverage’. RoHS in turn has a footprint in two impact areas: Human toxicity and ecotoxicity. Both footprints are classified as ‘very large’. These two impact areas have different materiality classes. Human toxicity is ‘existential for individuals’ and ecotoxicity is ‘important for mankind’.

The following weightings stand behind the signal, footprint and materiality classes:



| Signal Class | Signal Weight (SW) |
|--------------------|--------------------|
| full coverage | 100 |
| very strong signal | 80 |
| strong signal | 50 |
| solid signal | 25 |
| weak signal | 10 |

| Footprint Class | Footprint weight (FW) |
|-----------------|-----------------------|
| very large | 100 |
| rather large | 60 |
| rather small | 20 |
| very small | 5 |

| Materiality Class | Impact Area weight (L...) |
|------------------------------------|---------------------------|
| existential for mankind | 10000 |
| existential for individuals | 7500 |
| important for mankind | 5000 |
| important for individuals | 1000 |
| existential/ important for animals | 100 |

And these weightings replace the classifications in the coming calculations.

| ID | Scoring Criterion | SW | Inventory Item | FW | Impact Area | IAW |
|----|--|-----|----------------|-----|----------------|------|
| 1 | The product complies with the substance restriction requirement... | 100 | RoHS | 100 | Human toxicity | 7500 |
| 1 | The product complies with the substance restriction requirement... | 100 | RoHS | 100 | Ecotoxicity | 5000 |

Calculation step 1

The sum of the footprint weights (FW) is calculated for each impact area. If the value is greater than or equal to 100, impact area weighting (IAW) is transferred in full as the “point budget”. If the sum is lower, it is interpreted as a percentage value and the point budget is reduced accordingly. Explanation: The basic weighting of an impact area shall only be reflected in scoring points to the extent that the category also has a footprint here.

| ID | Scoring Criterion | FW | Sum FWs over Impact Area | Impact Area | IAW | Point Budget |
|----|--|-----|--------------------------|----------------|------|--------------|
| 1 | The product complies with the substance restriction requirement... | 100 | 3985 | Human toxicity | 7500 | 7500 |
| 1 | The product complies with the substance restriction requirement... | 100 | 2860 | Ecotoxicity | 5000 | 5000 |

Calculation step 2

The sum of the signal weights SW is calculated for each impact area. The division of SW divided by “Sum SW over Impact Area” results in % Signal

Calculation step 3

% Signal divided by one hundred is multiplied with Point Budget resulting in Row points

Calculation step 4

The sum over the row points for the criterion is formed

| ID | Scoring Criterion | SW | Sum SW over Impact Area | Impact Area | % Signal | Point Budget | Row points | Aggregated weighting |
|----|-------------------------------|-----|-------------------------|----------------|----------|--------------|------------|----------------------|
| 1 | The product complies with ... | 100 | 3625 | Human toxicity | 3 | 7500 | 225 | 475 |
| 1 | The product complies with ... | 100 | 1965 | Ecotoxicity | 5 | 5000 | 250 | 475 |

Good to know

Reviewed by researchers and institutes

Scoring parameters are reviewed and audited by independent institutes like Wuppertal Institut and Öko-Institut who also have the final say on weighting details.



About ESG Score

ESG Score supports the transformation from social market economy to *sustainable* social market economy by channeling procurement budgets towards ever more sustainable products.

By integrating our pre-calculated ESG Scores into procurement processes, anyone in the organization can immediately identify and compare the sustainability of standard products. When used with a procurement system, buyers can even sort and filter the products by ESG Score in their digital catalogs – just like they have been doing for ages for criteria like size, color, price, delivery time and more.

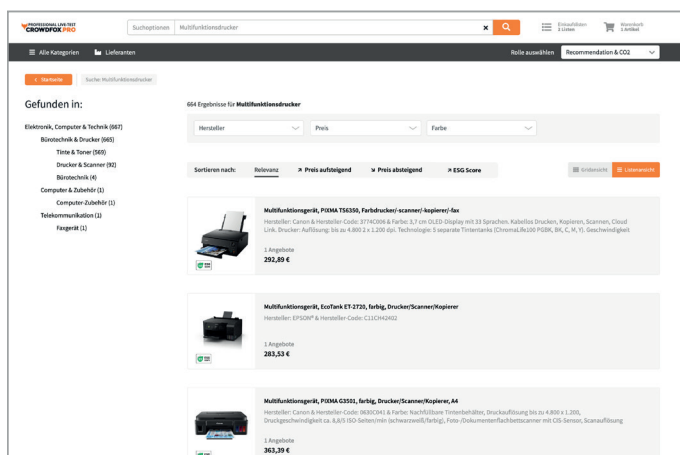
Use cases for buyers

- Select best-in-class sustainable products quickly
- Get scoring criteria & data
- Scoring via the RFI tool
- Sort and filter products by sustainability in the search results*
- Get transparency on sustainability price sensitivity*
- Monitor sustainable procurement performance*
- Enrich catalog data*

* requires optional integration of ESG Score into procurement system

Use cases for retailers, marketplaces, and procurement solution providers

- Enable clients to sort & filter products by sustainability
- Enrich catalogs with sustainability data demanded by clients
- Assure assortment coverage for best-in-class sustainable products



ESG Score integration with Crowdfax, a popular procurement solution.

Impartiality and Independence

- ESG Score does not realize any income from business with manufacturers. ESG Score thus, does not have any conflicts of interest in regard to companies whose products it is assessing.
- Our main revenue comes from buyers who pay for getting fact-based, independent scorings
- Additional revenues result from fees for distributing certifier data to retailers and procurement systems plus from fees that retailers and procurement systems pay for ESG raw data.



ESG
score

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