

1.3 Sustainability performance (EXAMPLE)

Background

Sustainability is a long term goal and therefore a responsible way to work with sustainability is through a long term strategy. Improvements must often be phased in gradually and requires planning and preparation to not affect the business negatively. The sustainable performance indicators will help us follow the development of products and brands, enabling us to set criteria that are challenging but yet reasonable, and that cover the most relevant parts of the product life cycle.

The declared performance indicators help determine the sustainability benefits that the certified products create, and track this over time. A purchasing organization can use the declared performance indicators in sustainability reporting and, for example, implement climate compensation or other sustainability related measures connected to the sustainability impact of the product.

All sustainability performance indicators criteria are beyond the scope of TCO Certified and it is not necessary to comply with any of them to qualify for TCO Certified.

Definitions

Brand owner: The company or organization owning or controlling the brand name.

TCO Certified portal: An online system to apply for TCO Certified, administer, and view certificates.

Recycled plastic is post-consumer recycled plastic that has been used in products.

Mandate

1. The sustainability performance indicators must be registered in the TCO Certified portal at the time of application.
2. By the end of February each year, information on the previous calendar year's global production volume of the product must be updated in TCO Certified portal. (This applies until the year after a certificate has expired.)

Submit the following to an approved verifier:

- The sustainability performance indicators form 11.3.3 must be completed and uploaded to the TCO Certified portal.

Submit the following together with the application to TCO Development:

A copy of a test report from a verification partner approved by TCO Development including the result of all sustainability performance indicators.

Clarification

1. The declared performance indicators

The declared performance indicators are parameters that are considered extra important in order for purchasers to determine the sustainability benefits of certified products. In this generation of TCO Certified, the declared performance indicators are:

1. Total product weight is an indication of the amount of potential e-waste at end-of-life. By decreasing the total product weight, e-waste can be reduced.
 - Total weight of the product and power supply (without packaging) in kg.
2. If the energy consumption of a product is known, the climate impact during the use phase can be calculated.
 - For displays, all-in-one PCs, notebooks, desktops:
Measured energy consumption according to ENERGY STAR®.
 - For projectors:
Measured energy consumption according to TCO Certified in On mode (normal operation) for the declared TCO Certified Image Size.
3. Use of recycled plastics lowers the environmental impact, including up to 80 percent lower energy consumption in manufacturing compared to virgin plastics. Less raw materials are required to produce recycled plastics, which can lead to a reduced carbon footprint. Every metric ton of recycled plastic produced can result in up to 1-3 metric tons of carbon dioxide savings, compared to virgin plastics.
 - Percentage of post-consumer recycled plastic by weight of total weight of all product parts made out of plastic. (Except panels, electronic components, cables, connectors, PWBs, insulating mylar sheets and labels)
4. Number of charging cycles affects the lifespan of the battery.
 - For products with a rechargeable battery:
The number of charging cycles until the battery reach 60% SoC, according to the criterion "Battery longevity"(6.5).

2. Clarification for sustainability performance indicators

All certified products must be evaluated against the sustainability performance indicators in this chapter, but it is not necessary to comply with any of them to qualify for TCO Certified.

The verification partner must issue a test report covering all the criteria and upload the results to the TCO Certified portal at the time of application. The declared performance indicators in the form are marked with * and will be published by TCO Development and printed on the certificate. The rest of the data will be kept confidential and collected by TCO Development for the purpose of developing future criteria and measure the impact of TCO Certified. Compiled data may be published in an anonymous format in for example annual sustainability reports by TCO Development.

New applications

Before a product is certified according to TCO Certified, compliance is verified by a verification partner approved by TCO Development. When all tests have been carried out, the verification partner submits answers to the questions in the sustainability performance indicators form. Additional tests are carried out if needed in order to answer the questions. The verification partner will also check if all the required documentation has been uploaded to the TCO Certified portal by the applicant or brand owner. Finally, a test report for the sustainability performance indicators is issued by the verification partner and the results are uploaded to the TCO Certified portal.

Reassessments

Changes made to the product or its manufacturing may affect the sustainability performance indicators. The applicant can choose to do a re-assessment or not. To do a re-assessment, the necessary documentation (and in some cases the product) must be sent to a verification partner that issues a test report for the sustainability performance indicators and upload the new data to the TCO Certified portal.

Quoting sustainability performance indicators in the marketing of a product

The following guidelines apply to all communications about sustainability performance indicators. Quoting or referring to the sustainability performance indicators is not allowed unless a written agreement to do so is made with TCO Development.

“Worst case” reporting

If the verification partner has conducted a “worst case” testing and accepts a number of similar configurations of the product in the issued test report based on these tests, the sustainability performance indicators may also be the same for all accepted configurations.

Sustainability performance indicators

Public factory list

Applicability:

All product categories

Sustainability performance indicator:

Does the brand owner have a public list of all final assembly factories for certified products?

If yes, then the following proof must be confirmed by an approved verified:

1. A link to the public list of all final assembly factories on the brand owners website.
 2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.
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Clarifications

A list of final assembly factories (including own and ODM factories) that at least include those registered by the brand owner on the TCO certified portal must be made public on the brand owner website under the heading Supply Chain or similar. The factory information must show at least the supplier name, factory full address and type of products produced at the factory. Additional information on whether the supplier has produced a GRI-based sustainability report is optional.

SA8000

Applicability:

All product categories

Sustainability performance indicator:

Are all final assembly factories manufacturing the certified product SA8000 certified?

If yes, then the following proof must be confirmed by an approved verified:

1. All final assembly factories manufacturing the certified product must have a valid SA8000 certificates uploaded to the TCO Certified portal.
 2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.
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Replaceable components

Applicability:

All product categories

Sustainability performance indicator:

Is it possible to replace all of the critical parts listed in the “Replaceable components” criteria, without the use of heat or other tools than those intended to turn, slotted (ISO 2380), cross-recessed (Phillips® and Pozidriv®, ISO 8764) or hexalobular recess heads (Torx®, ISO 10664)?

If yes, then the following proof must be confirmed by an approved verified:

1. Documentation proving that the sustainability performance indicator is fulfilled.
2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.

Halogens

Applicability:

All product categories

Sustainability performance indicator:

1. Is the “Halogens” criteria met for all plastic parts regardless of weight?
2. Is the “Halogens” criteria met for the whole product without any excepted parts?

If yes, then the following proof must be confirmed by an approved verified:

1. A copy of manufacturer’s halogen-free implementation specification or similar.
2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.

Clarifications

Included are all types of plastic in for example panels, internal and external cables, connectors, printed wiring board and substrate laminates, insulating mylar sheets and labels.

The allowed maximum concentration limit is set to 900 ppm by weight for chlorine and bromine individually (maximum 1500 ppm for chlorine + bromine) derived from flame retardant/plasticizer/PVC (including PVC copolymer)/plastic (polymeric) material.

For electronic components other than printed wiring board and substrate laminates, each plastic within the component must contain < 1000 ppm (0.1%) of bromine and < 1000 ppm (0.1%) of chlorine by weight in homogeneous materials (maximum 1500 ppm for chlorine +

bromine) derived from flame retardant/plasticizer/PVC (including PVC copolymer)/plastic (polymeric) material.

The limit value of 900 ppm as the maximum content of chlorine or bromine contained in the resin (or 1500 ppm for chlorine + bromine) has been chosen to harmonize with the IEC 61249-2-21 and IPC 4101B standards.

The limit value for electronic components (< 1000 ppm (0.1%) of bromine and < 1000 ppm (0.1%) of chlorine by weight in homogeneous materials derived from flame retardant/plasticizer/PVC (including PVC copolymer)/plastic (polymeric) material) has been chosen to harmonize with the iNEMI Definition of "Low Halogen" Electronics.

A "manufacturers halogen-free implementation specification or similar" is for example an implementation plan on how and when the brand owner is shifting towards halogen-free alternatives and for which products.

Non-halogenated substances

Applicability:

All product categories

Sustainability performance indicator:

1. Is the "Non-halogenated substances" criteria met with no substances used with a GreenScreen® benchmark lower than 3?
2. Do all plastic parts regardless of weight fulfill the "Non-halogenated substances criteria"?

If yes, then the following proof must be confirmed by an approved verified:

1. Documentation proving that the sustainability performance indicator is fulfilled.
 2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.
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Final assembly renewable energy consumption

Applicability:

All product categories

Sustainability performance indicator:

Do all final assembly factories manufacturing the certified product use at least 20% renewable energy?.

If yes, then the following proof must be confirmed by an approved verifier:

1. A copy of final assembly factories renewable energy purchases or similar documents.
2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.

Energy efficiency

Applicability:

Notebooks, all-in-one PCs and desktops

Sustainability performance indicator:

1. Is the product in compliance with ENERGY STAR version 7.0 for computers?

If yes, then the following proof must be confirmed by an approved verifier:

1. Documentation proving that the sustainability performance indicator is fulfilled.
2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.

Clarifications

The product must be tested according to version 7.0 of the ENERGY STAR program for computers. The tests only need to cover the energy consumption requirements and the external power supply requirements of that program. The product does not need to be ENERGY STAR certified.

Testing must be carried out by verifiers approved by TCO Development or at any test facility accredited according to ISO 17025. In both cases, the test facility is required to issue a verification report to confirm compliance.

Exceptions and special requirements

All exceptions and special requirements, test methods etc. that are accepted by ENERGY STAR are also accepted by TCO Development. Products that are covered under other ENERGY STAR product specification must be tested under that specification

Energy efficiency

Applicability:

Displays

Sustainability performance indicator:

1. Is the product in compliance with California's Appliance Efficiency Regulations (Title 20) for computer monitors with allowances according to Table V-5 row 3 (tier 1)?
2. Is the product in compliance with California's Appliance Efficiency Regulations (Title 20) for computer monitors with allowances according to Table V-5 row 4 (tier 2)?

If yes, then the following proof must be confirmed by an approved verified:

1. Documentation proving that the mandate is fulfilled.
2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.

Clarifications

The calculations for determining the maximum power consumption for the product can be found in the Title 20 Appliance efficiency Regulations section 1605.3(v)(4):

<https://govt.westlaw.com/calregs/Document/IEEDE2D64EF7B4F168C0E85379828A8C2>

The product does not need to be certified to the California Energy Commission.

Product durability

Applicability:

Notebooks, Tablets, Smartphone

Sustainability performance indicator:

Is the "Product durability" criteria met with additional MIL-STD-810G or EIC60068-2 tests?

If yes, then the following proof must be confirmed by an approved verified:

1. Documentation of which additional tests have been performed must be uploaded to the TCO Certified portal and together with the test report(s).
2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.

Battery replaceability

Applicability:

Notebooks, Tablets, Smartphone, Headsets

Sustainability performance indicator:

1. Is the main battery of the product replaceable without tools?

If yes, then the following proof must be confirmed by an approved verified:

1. Documentation proving that the sustainability performance indicator is fulfilled.
 2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.
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Heavy metals

Applicability:

Projectors

Sustainability performance indicator:

Is the "Heavy metals" criteria met without any exception for mercury in lamps?

If yes, then the following proof must be confirmed by an approved verified:

1. Documentation proving that the sustainability performance indicator is fulfilled.
 2. The sustainability performance indicators form must be completed and uploaded to the TCO Certified portal.
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Example of sustainability performance indicators form (11.3.3)

All rows marked with * will be published by TCO Development and printed on the certificate.

*Percentage of recycled plastic by weight of total weight of plastic parts	%	
* Total weight of the product and power supply (without packaging)	Kg	
*Measured energy consumption according to ENERGY STAR®. (This measured value of one sample may differ from declared values presented in other places due to a batch uncertainty that is added to cover all products leaving the production line.) (Worst case value.)	On mode (W)	
	Short idle (W)	
	Long idle (W)	
	Sleep mode (W)	
	Off mode (W)	
* Typical Energy Consumption (TEC) according to ENERGY STAR®. (Worst case value.)	ETEC (kWh)	
	ETEC_MAX (kWh)	
*The number of charging cycles until the battery reach 60% SoC, according to the criterion "Battery longevity"	Number of cycles	
Does the brand owner have a public list of all final assembly factories for the certified product?	yes/no	
Are all final assembly factories manufacturing the TCO Certified product SA8000 certified?	yes/no	
Do all final assembly factories manufacturing the certified product use at least 20% renewable energy?	yes/no	
Is it possible to replace all of the critical parts listed in the "Replaceable components" criteria (6.2), without the use of heat or other tools than those intended to turn, slotted (ISO 2380), cross-recessed (Phillips® and Pozidriv®, ISO 8764) or hexalobular recess heads (Torx®, ISO 10664)?	yes/no	
Is the "Halogens" criteria met for all plastic parts regardless of weight?	yes/no	
Is the "Halogens" criteria met for the whole product without any excepted parts?	yes/no	
Is the "Non-halogenated substances" criteria met with no substances used having a GreenScreen® benchmark lower than 3?	yes/no	
Is the "Non-halogenated substances" criteria met for all plastic parts regardless of weight?	yes/no	
Is the product in compliance with ENERGY STAR® for computers version 7.0?	yes/no	
Is the product in compliance with the California Energy Commission 2016 Appliance Efficiency Rulemaking for computer monitors?	yes/no	
Is the "Product durability" criteria met with additional MIL-STD-810G or EIC60068-2 tests?	yes/no	
Is the main battery of the product replaceable without tools?	yes/no	
Is the product in compliance with the California Energy Commission 2016 Appliance Efficiency Rulemaking for computer monitors?	yes/no	
Is the "Heavy metals" criteria met without any exception for mercury in lamps?	yes/no	