

# Climate verification guidelines

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| 2026-06-10  | 1.4            | Robin Askew        | Added verification guidelines for “Annualized PCF” “Energy Efficiency” & “Energy Management System”  |

# Renewable energy - Verification guidelines

## Purpose and Scope

The purpose of this document is to define the verification requirements for assessing compliance with the Renewable Energy criterion in TCO Certified, generation 11. It provides instructions for verifying electricity consumption data, REC cancellation statements, and the calculation of renewable electricity share to support consistent and independently verifiable assessments.

The intended users of this document are verifiers approved by TCO Certified who assess compliance with the Renewable energy criterion. Brand owners may also use this document to understand the verification approach and prepare documentation for review.

This document applies to all renewable electricity claims submitted under TCO Certified.

### **It defines:**

- The requirements for verifying electricity consumption data
- The requirements for verifying authenticity and coverage of REC cancellation statements
- The rules for calculating renewable electricity share
- The requirements for verifying a brand owner's share of production at a factory, where applicable

This document does not modify the Renewable energy criterion. In the event of any inconsistency, the Renewable energy criterion in the TCO Certified criteria document takes precedence.

## Definitions

**Issuing body:** An independent registry or issuing body responsible for issuing, tracking, validating, and cancelling RECs.

**Cancellation statement:** A statement issued by the registry or issuing body when RECs are cancelled for a specific beneficiary.

**REC registry:** An official database maintained by an issuing body showing certificate details and status.

**Reporting entity:** The entity making the renewable electricity claim. This may be a factory or a company within a defined region. The reporting entity must be listed as beneficiary on the REC cancellation statement.

**Reporting boundary:** The buildings, facilities, and operations whose electricity consumption must be reported and included when calculating the renewable electricity share. The reporting boundary is determined by the information provided in the REC cancellation statement.

**Renewable electricity share:** The share of the reporting entity's electricity consumption that is covered by valid REC cancellations used to support the renewable electricity claim for the reporting period.

# Verification of renewable energy claims

In TCO Certified, the beneficiary named on the REC cancellation statement determines the reporting boundary. This means that the renewable electricity share must be calculated using all verified electricity consumption within that boundary.

All renewable electricity claims must be supported by verifiable electricity consumption data and valid REC cancellation statements.

Verification of renewable electricity claims focuses on four aspects:

- 1. Authenticity of cancellation statements**
- 2. Coverage of renewable electricity claims**
- 3. Claimed electricity consumption**
- 4. A brand owner's share of production at a factory, where applicable**

## **1. Verification of cancellation statement authenticity**

The verifier must confirm that the cancellation statement corresponds to registry data using one of the following methods:

- A. Direct access to the issuing body registry through a QR code or verifier login, OR
- B. Signed confirmation from the issuing body.

Check that the following cancellation statement data matches the registry data

- Certificate ID or serial number
- Quantity (MWh or number of RECs)
- Issuing date and generation period
- Certificate status (cancelled/retired)
- Cancellation date
- Beneficiary name
- Registry/issuing body
- Energy source

## **2. Verification of Coverage of Renewable Electricity Claims**

The verifier must confirm that:

- The beneficiary information on the cancellation statement clearly supports the reporting boundary used for the claim
- The beneficiary information clearly shows which electricity use must be included in the calculation
- The total amount of cancelled RECs covers the renewable electricity claimed
- The REC production period falls within six months before and three months after the reporting period
- The energy source is accepted under TCO Certified

The reporting boundary may be defined for:

- A factory business license
- A factory business license and a brand name
- A company within a defined region

### **3. Verification of Claimed Electricity Consumption**

The verifier must confirm that the submitted documentation is sufficient to support the reported electricity consumption for the full reporting boundary and reporting period.

The verifier must confirm that the electricity consumption documentation:

- Covers the full electricity use within the reporting boundary identified on the REC cancellation statement;
- Covers the full previous calendar year; and
- Is based on independently verifiable documentation accepted under the Renewable energy criterion.

Accepted proof includes:

- Regulatory energy audit documentation;
- ISO 50002 energy audit documentation;
- ISO 50001 certification audit evidence, including the certificate, certified scope, and audit report or summary confirming review of electricity data; or
- Other independent energy audits performed by accredited or legally authorised auditors.

This means:

- If the beneficiary is a factory business license, all electricity use for that factory must be verified.
- If the beneficiary is a factory business license and a brand name, full factory electricity use and the brand owner's share of production documentation must be verified.
- If the beneficiary is a company within a defined region, all electricity use for that company and region must be verified.

#### **4. A brand owner's share of production at a factory**

If reporting is based on a brand owner's share of production at a factory, the verifier must confirm that:

- The cancellation statement clearly identifies both the factory and the brand owner. Where the beneficiary field does not allow this level of detail, the same information may be provided in other fields on the cancellation statement.
- The brand owner's claimed share of production is covered by documented proof based on either production volume or revenue

The documentation must:

- Cover the full reporting period,
- Cover the full business license under which the factory is registered, and
- Not be based only on declarations or unsupported internal estimates.

## **Verification of exceptions**

### **Exception for high market price of RECs**

Where the renewable electricity claim includes RECs from neighbouring markets under the exception for a high market price of RECs, the verifier must confirm that:

- The market price threshold in the relevant market was exceeded in line with the Renewable energy criterion
- The share of renewable electricity covered by RECs from neighbouring markets does not exceed the percentage allowed under the criterion
- The neighbouring market used is accepted under the Renewable energy criterion

The verifier must also confirm that the submitted documentation is sufficient to show how the share of RECs from the relevant market and from neighbouring markets has been determined. Market price evidence must identify the relevant market, REC system, time period, price basis, and source of the price information, and must be sufficient to confirm that the applicable threshold in the Renewable energy criterion was exceeded.

### **Exception for new factories**

Where a brand owner relies on the exception for a new factory, the verifier must confirm that the claim is supported by documentation or process confirmation showing that the factory qualifies for the exception under the Renewable energy criterion.

The verifier must also confirm that the claim is assessed in line with the adjusted compliance timing set out in the Renewable energy criterion.

## Clarifications

### **Factory-level reporting is preferred**

Factory-level reporting should be used whenever possible. It is the clearest and simplest reporting method and is easiest to verify.

### **When the beneficiary is a larger entity**

If the beneficiary named on the cancellation statement is larger than one factory, the renewable electricity share must be calculated using all the electricity used by that beneficiary.

A factory may claim this share only if the verifier confirms that the factory is fully owned by the company covered by the beneficiary and that the RECs are sourced and purchased in the same national electricity market as the factory.

### **When the cancellation statement is not specific enough**

If the cancellation statement does not clearly identify the reporting boundary used for the claim, the claim must be verified against the broadest electricity use that the statement could reasonably cover.

## Data collection and reporting in the TCO Certified Portal

For each factory on the Accepted Factory List, the required data and documentation must be reported in the TCO Certified portal before the end of August each year.

The portal collects the data and documentation needed to calculate and verify the factory-level electricity use and renewable electricity share required by the Renewable energy criterion. Portal field labels may be shortened for practical data entry, but must be interpreted in accordance with the definitions and verification rules in this guideline.

### Data fields to be reported in the portal:

1. *Reporting Period* - The consumption period for which the renewable electricity claims are being made [YYYY]
2. *Reporting entity/Beneficiary* - named on the REC cancellation statement
3. *Reporting level* - Select the broadest boundary that the REC cancellation statement could reasonably cover if the reporting boundary is not clearly identified: factory (recommended) OR company and region.
4. *Reporting boundary level used for the claim* - Write the name of the factory, company, country, region, or other boundary used to calculate the renewable electricity share. If "region" is selected, write the name of the region. The reporting boundary determines which electricity consumption must be included in the calculation.
5. *Reporting entity electricity consumption during the previous calendar year [MWh]* - The total electricity consumption for the reporting entity / beneficiary during the previous calendar year.
6. *Cancelled RECs for the reporting entity during the previous calendar year [MWh]* - The renewable electricity covered by REC cancellation statements for the reporting entity / beneficiary during the previous calendar year.
7. *Factory electricity consumption during the previous calendar year [MWh]*
8. *Brand owner's share of production at a factory [%], where applicable* – The brand owner's share based on production volume or revenue, used to allocate factory electricity consumption.
9. *Uploaded proof fulfils the requirements stated in the verification guidelines* - Checkbox filled out by verifiers only

**Documentation to upload to TCO Certified Portal**

- *Documented proof of the factory (and reporting entity's if reporting level is other than factory) electricity consumption during the previous calendar year*
- *REC cancellation statements supporting the renewable electricity claim*
- *Documented proof of the brand owner's share of production at a factory based on production volume or revenue, where applicable*

# Annualized PCF - Verification guidelines

## Purpose and scope

The purpose of this document is to define the verification requirements for the Annualized PCF criterion under TCO Certified.

It provides instructions on how compliance with the Annualized PCF criterion shall be assessed, including verification of approved Scope 3 reductions claimed for the certified product and verification of compliance with the Annualized PCF mandate.

The intended users of this document are compliance professionals within brand owner organizations and verifiers approved by TCO Certified.

This document does not modify the Annualized PCF criterion. If there is any inconsistency, the Annualized PCF criterion in the TCO Certified criteria document applies.

# Definitions

## **Annualized PCF**

For product categories assessed under the Annualized PCF criterion, the verifier shall apply the following calculation:

*Annualized PCF* = (Category average Scope 3 - Verified Scope 3 reductions) / Supported product life + Category average Scope 2

## **Supported product life**

The number of years after the end of placement of the product on the market during which the brand owner commits to providing the support needed for the product to maintain its intended functionality.

The required support includes security and functionality software updates, availability of critical spare parts, repair manuals, and spare batteries, where applicable. The shortest period among these support elements is used.

Supported product life = min(security and functionality software updates period, critical spare parts availability period, repair manual availability period, spare battery availability period)

## **Approved Scope 3 reduction**

A Scope 3 reduction activity that is accepted by TCO Development and listed in *Scope 3 reductions*, together with an associated reduction value and verification methodology.

## **Product category average Scope 2 and 3 values**

The Scope 2 and Scope 3 average values published by TCO Development for the relevant product category and used as input parameters in the Annualized PCF formula. For individual certified product calculations, the Scope 3 value is annualized over the supported product life, while the Scope 2 value is added as an annual use-phase contribution. For product category average annualized PCF calculations, the Scope 3 value is annualized over the product life average.

# Verification of Annualized PCF claims

Verification of Annualized PCF claims under TCO Certified focuses on two aspects:

1. Verification of approved Scope 3 reductions
2. Verification of compliance with the Annualized PCF mandate

## **1. Verification of approved Scope 3 reductions**

The verifier shall confirm that each Scope 3 reduction claimed for the certified product is an approved Scope 3 reduction under TCO Certified.

The verifier shall confirm that:

- Each claimed reduction activity is listed in Scope 3 reductions
- The reduction value applied matches the value defined by TCO Development for that activity
- Each claimed activity has been verified in accordance with the methodology defined in Scope 3 reductions

Where more than one approved Scope 3 reduction is claimed, the verifier shall confirm that the reductions are combined in accordance with TCO Development methodology and that the same implementation is not counted more than once.

## **2. Verification of compliance with the Annualized PCF mandate**

The verifier shall confirm that the certified product complies with the mandate in the Annualized PCF criterion.

The verifier shall confirm that:

- The supported product life used in the assessment is the shortest verified period among the applicable commitments for security and functionality software updates, critical spare parts availability, repair manual availability, and spare battery availability, as defined in the corresponding circularity criteria
- The product category average Scope 2 and Scope 3 values used in the assessment are the values published by TCO Development for the relevant product category

- Only approved Scope 3 reductions verified in accordance with section 1 of this document are deducted
- The resulting annualized PCF is calculated in accordance with the Annualized PCF criterion
- The resulting annualized PCF is lower than the threshold required by the criterion for the relevant product category

# Energy Efficiency – Verification Guidelines

## Purpose and Scope

The purpose of this document is to define the verification requirements for energy efficiency claims under TCO Certified. It provides instructions on how compliance with the Energy Efficiency criterion shall be assessed, including verification of laboratory test reports, power supply efficiency markings, and reported energy consumption values.

This document supports the Energy Efficiency criterion in the TCO Certified criteria document and ensures consistent and independently verifiable implementation across all certified products.

The intended users of this document are:

- Compliance professionals within brand owner organizations responsible for submitting energy efficiency documentation for products applying for TCO Certified.
- Verifiers approved by TCO Certified responsible for assessing compliance with the Energy Efficiency criterion.

This document applies to all product categories covered by the Energy Efficiency criterion.

It defines:

- The requirements for verifying laboratory test reports
- The requirements for verifying external power supply efficiency markings
- The requirements for verifying reported energy consumption values
- The requirements for verifying compliance with applicable EU Ecodesign regulations or Energy Star requirements

This document does not modify the Energy Efficiency criterion. If there is any inconsistency, the Energy Efficiency criterion in the TCO Certified criteria document applies.

# Definitions

## **EU Ecodesign Directive**

A framework directive (2009/125/EC) establishing requirements for the environmental performance of energy-related products, including energy consumption limits for specific product categories.

## **Energy Star**

An international energy efficiency program defining voluntary energy performance requirements for electronic products.

## **ISO/IEC 17025 accredited laboratory**

A laboratory accredited according to ISO/IEC 17025 demonstrating competence in testing and calibration activities.

## **External power supply efficiency level**

The efficiency classification defined under the International Efficiency Marking Protocol (IEMP), where Efficiency Level VI or higher represents the required minimum efficiency level for external power supplies.

# Verification of Energy Efficiency Claims

Verification of energy efficiency compliance focuses on three aspects:

1. Verification of laboratory test reports
2. Verification of external power supply efficiency
3. Verification of reported energy performance values

## 1. Verification of Laboratory Test Reports

The verifier must confirm that the submitted test report:

- Is issued by a laboratory accredited according to ISO/IEC 17025.
- Clearly identifies the tested product configuration.
- Confirm with the brand that the tested product configuration is considered worst-case for testing ( this usually means the configuration has a combination of the highest performance components offered for the model) and may be representative all other product configurations covered by the certificate.
- Specifies the applicable EU Ecodesign regulation or Energy Star standard used for testing.

The test report shall demonstrate that the product complies with the energy efficiency and power consumption requirements of the applicable EU Ecodesign regulation or Energy Star version referenced in the Energy Efficiency criterion

The verifier shall confirm that the following information is included in the test report where applicable:

- Brand
- Product name
- Model number
- Processor brand and model
- System memory
- Integrated or dedicated GPU
- Operating system
- Power supply unit

## **2. Verification of Power Supply Efficiency**

The verifier shall confirm that any external power supply included with the product:

- Bears the Efficiency Level VI marking or higher according to the International Efficiency Marking Protocol (IEMP)

For all power supplies offered with the model with a non-USB-C power port, with a rated wattage >240W products, the verifier shall confirm that:

- A list of all power supplies offered with the model non-USB-C power port is supplied from the brand.
- All covered power supplies have at least 90% efficiency at 50% load.

Proof of compliance may include:

- Test reports issued by a laboratory or 80 Plus Program, together with proof that the testing facility is accredited according to ISO/IEC 17025 for all covered power supplies.
- All power supplies offered with the models that are covered by the criteria have matching test reports.

## **3. Verification of Energy Performance Values reporting**

The verifier shall check that all energy performance values for the covered product category are reported in TCO Certified Portal and confirm that the energy performance values reported correspond to the values stated in the laboratory test reports.

# Energy Management System – Verification Guidelines

## Purpose and Scope

The purpose of this document is to define the verification requirements for the Energy Management System criterion under TCO Certified.

It provides instructions for verifying that factories are required by the criterion:

1. Have ISO 50001 certification covering the entire factory operation, and
2. Report Significant Energy Uses (SEUs) consistent with their ISO 50001 energy review.

The intended users of this document are compliance professionals within brand owner organizations and verifiers approved by TCO Certified.

This document does not modify the Energy Management System criterion. If there is any inconsistency, the criterion in the TCO Certified criteria document applies.

## 1. Verification of ISO 50001 Certificate Scope

The verifier shall confirm that, for each factory required by the criterion, either a valid ISO 50001 certificate is provided or proof is provided that an extension has been approved for the required factory.

The verifier shall confirm that:

- The certificate is issued by an independent certification body accredited by an accreditation body that is a member of the International Accreditation Forum (IAF) Multilateral Arrangement.
- The certificate scope covers the entire operation included in the factory's business license.
- The factory name and address match those listed for the certified product.

If an extension has been approved, the verifier shall confirm that the submitted proof identifies the factory covered by the extension and the approved extension period. During the approved extension period, the ISO 50001 certificate requirement and SEU submission requirement do not apply to that factory.

If the certificate is part of a multi-site certification, the verifier shall confirm that the factory is included in the site list or certificate appendix.

## 2. Verification of Significant Energy Use (SEU) Reporting

Factories must report the same Significant Energy Uses (SEUs) identified in their ISO 50001 energy review. If no updated ISO 50001 energy review has been conducted since the previous submission, the verifier shall confirm that the factory has stated that the previously submitted SEUs remain valid.

The verifier shall confirm that:

- Three SEUs with the highest estimated annual energy consumption are reported.
- The reported SEUs correspond to those identified in the factory's ISO 50001 energy review.
- The energy type used by each SEU is specified.
- Estimated annual energy consumption or the share of total energy use is reported where available.
- Any opportunities for energy performance improvement for the three listed SEUs, as identified in the ISO 50001 energy review, are reported.

If no updated ISO 50001 energy review has been conducted since the previous submission, the verifier shall confirm that the factory has stated that the previously submitted SEUs remain valid.

If exact values are not available, the verifier may accept estimates used internally by the factory for determining SEUs

Estimates may be based on:

- Sub-metering data
- Engineering calculations
- Proportional allocation methods
- Internal energy management system data

# Carbon offsets - Verifier guidelines

## Purpose and Scope

The purpose of this document is to define the verification requirements for carbon offset claims under TCO Certified. It provides detailed instructions on how compliance with the Carbon Offsets criterion shall be assessed, including verification of public commitments, offset quantities, and retirement of carbon credits in public registries.

This document supports the Carbon Offsets criterion in the TCO Certified criteria document and ensures consistent, credible, and independently verifiable implementation across all certified products.

The intended users of this document are:

- Compliance professionals within brand owner organizations responsible for carbon offset reporting and submissions under TCO Certified
- Verifiers approved by TCO Certified responsible for assessing compliance with the Carbon Offsets criterion

This document does not modify the Carbon Offsets criterion. If there is any inconsistency, the Carbon Offsets criterion in the TCO Certified criteria document applies.

## **Definitions**

### **Carbon credit**

A tradable unit representing one metric tonne of CO<sub>2</sub>e reduced or removed by a carbon offset project and issued by a carbon-crediting program.

### **Retirement**

The permanent removal of a carbon credit from circulation in a registry so that it cannot be used again.

### **Carbon credit registry**

An official database operated by a carbon credit standard or program where carbon credits are issued, tracked, transferred, and retired.

### **Beneficiary / retirement designation**

The entity or purpose stated in the registry retirement record identifying the claim associated with the retired carbon credits.

# Verification of carbon offset claims

Verification of carbon offset claims under TCO Certified focuses on four aspects:

1. Verification of carbon credit quality
2. Verification of carbon credit retirement
3. Verification of offset quantity
4. Verification of public statement

## 1. Verification of Carbon Credit Quality

The verifier shall confirm that the carbon credits used for compliance are:

- Integrity Council for the Voluntary Carbon Market (ICVCM) Core Carbon Principles (CCP)-labelled credits
- OR credits originating from a project rated BBB, A, AA, or AAA by Sylvera

### ICVCM CCP-labelled credits

The verifier must verify by:

1. checking the submitted carbon credits against the official registry of the issuing carbon-crediting programme, or where necessary with the programme issuer, to confirm that the exact submitted credits are shown as carrying the Core Carbon Principles label
2. checking the Integrity Council for the Voluntary Carbon Market public information, where needed, to confirm that the relevant programme is Core Carbon Principles-Eligible and the relevant methodology or category is Core Carbon Principles-Approved
3. confirming that the project name or ID, credit serial numbers or batch identifiers, quantity, and any required retirement record match the submitted credits

### Sylvera route

The verifier must verify by:

1. opening the submitted Sylvera document
2. checking that the document clearly shows:
  - the name **Sylvera**
  - the project name or project ID

- the rating
  - the date
3. checking that the project shown in the Sylvera document is the same project as the one generating the submitted carbon credits
  4. confirming that the rating shown is **BBB, A, AA, or AAA**
  5. where information is unclear or inconsistent, requesting clearer evidence and, where possible, confirming the rating directly in the Sylvera platform

## **2. Verification of Carbon Credit Retirement**

The verifier must confirm that the carbon credits claimed by the brand owner have been permanently retired in an official public registry and cannot be used for any unrelated claim.

The verifier shall confirm that registry information corresponds with the submitted documentation, including:

- Registry name
- Quantity of credits retired
- Retirement date
- Retirement beneficiary or purpose

The preferred retirement designation clearly identifies the TCO Certified product claim, the brand owner, and the previous calendar year covered by the claim.

Example: "Retired for TCO Certified products of Brand X manufactured during 2025."

If the retirement record only names a broader entity, such as a company or corporate group, the verifier shall confirm that the retirement record or other official registry information clearly links the credits to TCO Certified products manufactured during the previous calendar year and supports the offset quantity used for compliance. A broad company name alone is not sufficient.

The claim boundary may be identified in any official registry field or retirement certificate, such as the beneficiary, purpose, note, remarks, or retirement reason. If the registry does not allow this, the verifier may accept official written confirmation from the registry or carbon-crediting program. Internal allocation records alone are not sufficient.

## **3. Verification of Offset Quantity**

The verifier shall confirm that the retired carbon credits correspond to the total offset amount required for the certified products manufactured during the reporting year.

The verifier shall confirm:

- THE number of certified products manufactured during the previous calendar year for each applicable product category.
- The mandated carbon offset value per product category
- The total required carbon offset amount is covered by the retired carbon credits.

#### **4. Verification of Public Statement**

The verifier must confirm that the brand owner has published a public statement committing to carbon offsets for certified products.

The verifier shall confirm that:

- The statement is publicly accessible in English.
- The statement is published on, or linked from, the Certified Product Commitment Page.
- The statement refers to TCO Certified products.
- The offset amount is declared in kg CO<sub>2</sub>e per certified product.
- The statement does not state or imply that carbon offsets reduce the product carbon footprint or reduce the manufacturing emissions of the certified product