

REQUIREMENTS

Refurbished Products: Achieved reductions claim

Addendum to:


Product carbon footprints: Requirements for Assurance – Part 1: Technical, version 3.0

Product carbon footprints: Requirements for Assurance – Part 2: Claims and labelling, version 3.2

This is a temporary addendum document pending incorporation into the next versions of the Requirements for Assurance.

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1. Scope

- 1.1. The purpose of this document is to provide an addendum to the Carbon Trust's Product carbon footprints: Requirements for Assurance – Part 2: Claims and labelling, version 3.2.
 - 1.1.1. It provides an additional scenario in which the **achieved** reductions claim may be awarded.

2. Acronyms and terms

Terms and definitions

Annualised emissions	The value of emissions on a per-use-year basis, calculated by taking the total lifetime emissions of a product and dividing it by the expected lifetime in years.
Original-Product lifetime	The assumed average lifetime length of the Original Product before it reaches its expected end of life (assuming no refurbishment takes place).
Original-Product user	A user of the Original Product.
Original Product	A product which has not been through the refurbishment process yet and which is on sale/is being used by the Original-Product user. It may or may not go through a refurbishment process in the future.
Product Being Refurbished	A product which the Original-Product user has finished using and could have disposed of, but instead the product is going through the refurbishment process to become a Refurbished Product.
Refurbisher	The specific organisation who owns or controls the Product Being Refurbished and who has ownership or control of the refurbishment process and who intends to be able to sell the resultant Refurbished Product to a Refurbished-Product User.
Refurbishment process	The process that the Refurbisher undertakes to restore products to a functional and/or satisfactory state to the original specification (providing the same function), using methods such as repairing or replacing components, repainting, etc. Refurbished Products may have been tested and verified that they function properly.
Refurbished Product	A product which realistically would have met its end-of-life fate had the refurbishment process not occurred. It would not have continued to be used by the Original-Product user and does not retain significant second-hand value in its current state without the refurbishment process. It has been through the refurbishment process and is on sale to/is being used by a Refurbished-Product user (who is expected to be different to the Original-Product user). It differs from a product which is reused without going through a refurbishment process, or a product where the component parts are recycled into different products/materials.
Refurbished-Product lifetime	The assumed average length of time which the Refurbished Product is used by the Refurbished-Product user.
Refurbished-Product user	A user of the Refurbished Product.

Key abbreviations

GHG	Greenhouse gas
RfA	Requirements for Assurance
CO₂e	Carbon dioxide equivalent
PCF	Product carbon footprint
OCF	Organisational carbon footprint
PCF RfA 1	Product carbon footprints: Requirements for Assurance, part 1
PCF RfA 2	Product carbon footprints: Requirements for Assurance, part 2
OCF RfA 1	Organisational carbon footprints: Requirements for Assurance, part 1
OCF RfA 2	Organisational carbon footprints: Requirements for Assurance, part 2
QC	Quality control

Assurance terms

Shall	A requirement to be in conformance with this document
Should	A recommendation, but not a requirement of this document
May	An option that is allowable or permissible

Parties involved

We/Us	The verification body
You	The Refurbisher, applying for Assurance

3. Refurbished Product comparisons

- 3.1. You **may** apply for the reducing claim for a Refurbished Product where it meets the definition of a 'Refurbished Product' per the definition in Section 2.

- 3.1.1. The verifier **shall** assess on a product-by-product basis whether an applicant product meets this definition.

Note: These requirements would not be appropriate for products with an active second-hand market such as second-hand cars, which retain significant value. In this case it may be appropriate for the refurbished (or second-hand) product to inherit some of the embodied emissions from the Original-Product's carbon footprint.

- 3.2. You **shall** compare the emissions of the Refurbished Product with those of an Original Product of the same type, specification and sales geography, or with an alternative comparator product.

- 3.2.1. Where an alternative comparator product is used, You **shall** provide a justification for this decision. We will consider this on a case-by-case basis.

- 3.3. You **shall** conform to Section 3 of Product carbon footprints: Requirements for Assurance, part 2 (latest version available [here](#)) and the sections below when footprinting the Refurbished Product.

- 3.4. You **shall** submit a process map of the refurbishment process and clearly define the boundary of the Refurbished Product's carbon footprint.

- 3.5. You **shall** include the following life cycle stages within the boundary of the Refurbished Product's carbon footprint:

- 3.5.1. The refurbishment process (see 3.6);

- 3.5.2. Distribution and transport to the Refurbished-Product user, including embodied emissions of any additional packaging used;

- 3.5.3. The use phase of the Refurbished Product by the Refurbished-Product user (adjusted for the lifetime length of the Refurbished Product's second life);

- 3.5.4. Other life cycle stages as relevant to the product type.

- 3.6. You **shall** include, where applicable, the following within the refurbishment process life cycle stage (see Figure 1):

- 3.6.1. Transportation of the Original Product from the Original-Product user to the refurbishment location(s), including the embodied emissions of any packaging used;

- 3.6.2. Full life cycle emissions from the screening, refurbishment, cleaning, testing and any other relevant processes;

- 3.6.3. Embodied emissions (including those from upstream transportation) of replacement parts and any consumables (such as cleaning supplies) used in the processes listed in 3.6.2;

- 3.6.4. End-of-life emissions of any replacement or additional parts or packaging added during the screening, refurbishment, testing and cleaning processes.

- 3.6.4.1. You **shall not** account for end-of-life emissions in the Refurbished Product's carbon footprint because they are attributed to the Original Product.

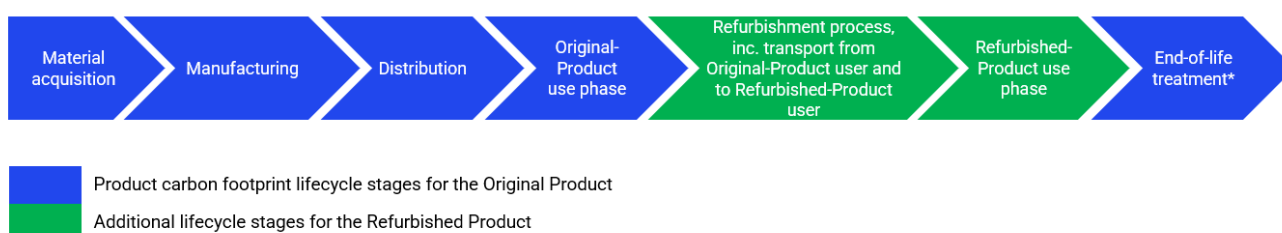
Note: This is because creating the Original Product causes end-of-life emissions, and the

refurbishment process does not create an additional end-of-life stage. However, it may delay the original end-of-life timing.

3.6.4.1.1. The exception is where additional end-of-life emissions are caused by the refurbishment process, such as the use of additional replacement parts, additional packaging or the disposal of the product in a different way or location to how it would have been disposed of if it had not been refurbished.

3.6.4.1.2. You **shall not** use a decrease in emissions from the end-of-life stage compared to the Original-Product's carbon footprint as a credit to the Refurbished Product's carbon footprint.

Figure 1: Product life cycle stages for Original and Refurbished Products



*Some end-of-life emissions may be allocated to the Refurbished-Product life depending on the nature of the refurbishment process.

3.7. You **shall** include within the Refurbished Product carbon footprint a contribution of emissions from products which have begun the refurbishment process but fail to be successfully refurbished, and therefore do not have a refurbished life.

Note: This could include products sent by the Original-Product user to a refurbishment facility that are screened and deemed to be of too low a quality to be refurbished.

3.7.1. You **shall** allocate the refurbishment-related emissions from these products evenly to successfully Refurbished Products to ensure that the successfully Refurbished Products account for the burden of the entire refurbishment process.

Note: This follows the same principles as for emissions from waste in a standard manufacturing process.

3.8. The Refurbished-Product lifetime **shall** reflect the average expected lifetime of all products refurbished from the same type, specification and model of the Original Product.

3.8.1. You **shall** be able to provide appropriate evidence to support the average expected lifetime values used.

3.9. When comparing a Refurbished Product's carbon footprint to comparator product You **shall**:

3.9.1. Use an Original Product's carbon footprint as the comparator, which includes the life cycle stages defined in **5.5.5** of Requirements for Assurance, part 1 (the latest version available [here](#)).

3.9.2. The comparison **shall** be made using a functional unit which is appropriate, and which **shall** be the same for the Refurbished Product and the Original Product.

Note: For consumer electronics, these are likely to be annualised emissions, but this should be determined as appropriate for the Product Being Refurbished.

3.9.3. The comparison **shall** show that the Refurbished Product has reduced emissions compared to the Original Product when using the appropriate functional unit, for the reducing claim to be achieved.

- 3.9.4.** If a carbon footprint exists for the comparator product, You **shall** rebaseline the Original Product's carbon footprint to make it comparable and account for any updated assumptions in the Refurbished Product's carbon footprint.

Note: To ensure that emission factor sources and age are comparable between the two, please refer to Section 9.2 in Product carbon footprints: Requirements for Assurance, part 1 (latest version available [here](#)).

- 3.10.** You **shall** make the following disclosures in the Product Emissions Report relating to the Refurbished Product's carbon footprint comparison:

- 3.10.1.** The boundaries of both the Original and Refurbished product carbon footprints (including the refurbishment process);

- 3.10.2.** The source(s) of the Refurbished Products;
Note: For example, customer returns, third-party vendors, etc.

- 3.10.3.** A statement **shall** be made giving a definition of refurbishment in the context of the Refurbished Product;

- 3.10.3.1.** The statement **shall** include an explanation that the Refurbished Product's carbon footprint does not include any of the embodied emission of the original materials/manufacture/upstream transportation from the production of the Original Product, and that this is because it is assumed that the Original-Product user had finished using the product and would have disposed of it had the option to refurbish not been available.

- 3.10.3.2.** The statement **should** include an explanation of how refurbishment differs from recycling or reuse.

- 3.10.4.** The carbon emissions and reductions stated **shall** only be used in the context of comparing the full life cycle emissions associated with an Original Product to the additional emissions associated with refurbishing the same product (or appropriate comparator product).

- 3.10.5.** The comparison made is between a Refurbished Product and an Original Product currently on sale. The Original Product's expected lifetime reflects the average expected lifetime of all Original Products while the Refurbished-Product lifetime reflects the average expected lifetime of all Refurbished Products. The source for the lifetime values **shall** be cited.

- 3.10.6.** The carbon footprint values and subsequent reductions may be highly sensitive to the assumed lifetime lengths used in the calculations, and the longer an Original Product or Refurbished Product is used for, the lower its annualised emissions will be.

- 3.11.** The verification body **shall** perform a due diligence check on the potential for rebound effects of the refurbishment process which invalidate the reduction claim. You are encouraged to provide evidence on this topic for consideration.

Note: An example of a rebound effect would be if the Refurbisher offered a reward for customers sending in used goods for refurbishment such that consumers were motivated to stop using the product prematurely. This will be assessed on a case-by-case basis.

- 3.12.** The claims text **shall** read:

- 3.12.1.** The carbon footprint of the refurbished [product name] is on average X% reduced compared to the carbon footprint of the original version of the same product [state FU].

VERSION HISTORY

Version	Date	Summary of changes	Author	Approved by
1.0	14 January 2026	Initial version	Charlotte Kirkman, Senior Manager, Assurance Technical Lead	Kirsten Dollery, Senior Manager Martin Hockaday, Associate Director, Head of Assurance Martin Barrow, Director John Kazer, Senior Manager

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