



EPEAT Solar Category and Ultra-Low Carbon Criteria: Verification Overview and Verification Entities



EPEAT Solar Category and EPEAT Ultra-Low Carbon Solar Criteria

EPEAT Solar Category

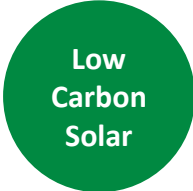
To be identified in the [EPEAT Registry](#), manufacturers of solar modules and inverters must prove conformance with all required criteria for this product category.

If manufacturers wish to achieve the EPEAT Silver tier or EPEAT Gold tier for their products, they must also prove conformance with optional criteria.

[Criteria for the solar category](#) address management of substances, preferable materials use, LCA, energy efficiency and water use, end-of-life management, packaging, and corporate responsibility.

For solar modules, three additional criteria address embodied carbon. These are referred to as [EPEAT Ultra-Low Carbon Solar Criteria](#).

Summary EPEAT Ultra-Low Carbon Solar Criteria



Criterion 4.1 (required)

The embodied carbon of the PV module shall be equal to or less than 630 kg CO_{2e} / kWp.



Criterion 4.2 (optional)

The embodied carbon of the PV module shall be equal to or less than 400 kg CO_{2e} / kWp.

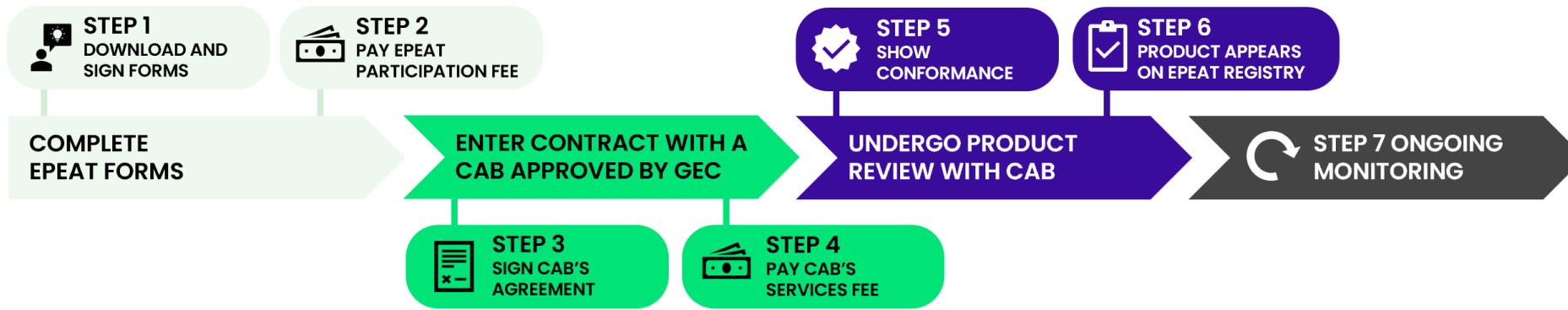


Criterion 4.3 (optional)

Primary life cycle inventory data underlying alternative GWP coefficients shall be publicly available.



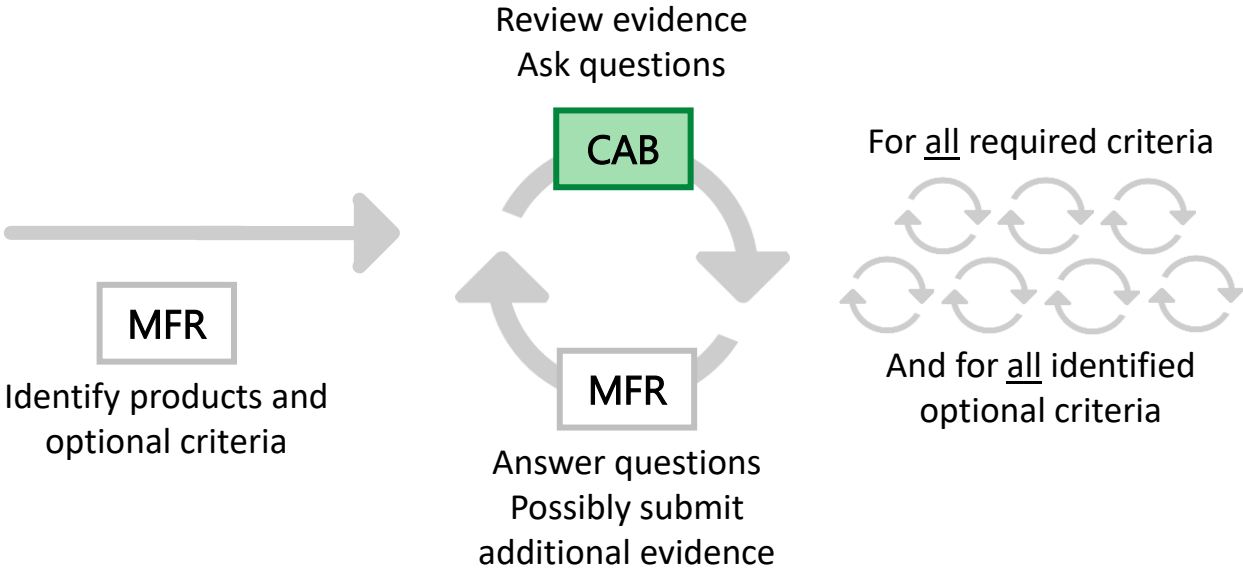
EPEAT Verification



- To participate in EPEAT and have products appear in the EPEAT Registry, manufacturers of products in any product category must engage with a GEC-Approved Conformity Assurance Body (CAB).
- CABs are impartial and independent verification experts that assess initial and ongoing conformance with EPEAT Criteria for product categories.
- To become approved by GEC, these organizations must have specific accreditations, successfully undergo an initial review and audit by GEC, and participate in annual audits against EPEAT programmatic requirements.
- A List of GEC-Approved CABs and the product categories for which they are approved to provide EPEAT conformity assurance services, is available on the [About EPEAT Page](#) of the EPEAT Registry.
- For the EPEAT Solar Category, GEC-Approved CABs assess conformance to **all criteria** in the solar category, and not just EPEAT Ultra-Low Carbon Solar Criteria.
- For EPEAT Ultra-Low Carbon Solar Criteria 4.1 and 4.2, **additional layers of verification** must be performed by different verification entities (i.e., entities that are not GEC-Approved CABs).

EPEAT Solar Category Verification

For All EPEAT Solar Category Criteria



For EPEAT Ultra-Low Carbon Solar Criteria 4.1 and 4.2

CAB In addition to documentation for all other EPEAT Solar Category Criteria, the CAB reviews information from the following Verification Entities:

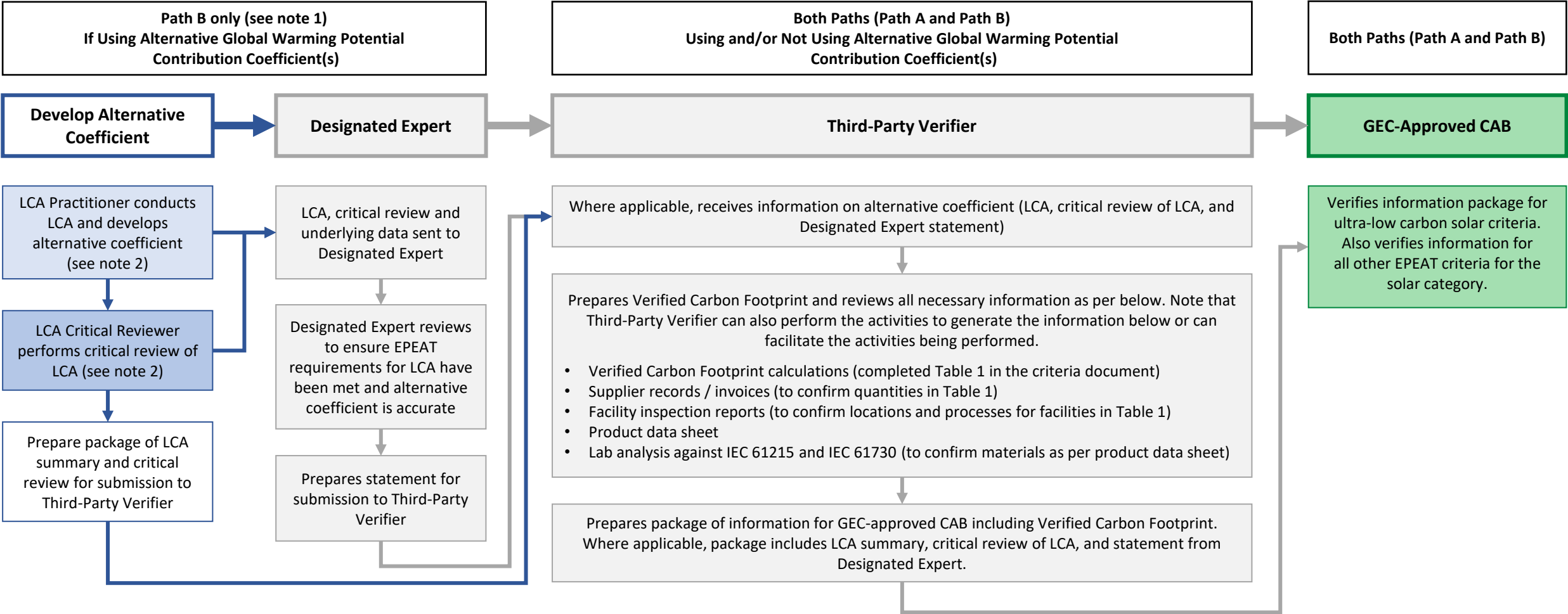
Independent Third-Party Verifier

Designated Expert
[only if alternative global warming potential contribution coefficient(s) is used to calculate carbon footprint]

Notes: MFR = Participating Manufacturer (company wishing to have products in EPEAT)
CAB = GEC-Approved Conformity Assurance Body



EPEAT Solar Category: Basic Process Flow for Ultra-Low Carbon Solar Criteria 4.1 and 4.2



Note 1: The process described here must be completed for each alternative global warming potential contribution coefficient used in the Verified Carbon Footprint.

Note 2: The LCA Critical Reviewer must be independent from the LCA Practitioner, and must meet the requirements in ISO 14044, Section 7.3.2. The LCA Practitioner and LCA Critical Reviewer must be independent from all Verification Entities [Designated Expert, Third-Party Reviewer (and laboratory and facility inspectors), and GEC-Approved CAB]. Participating Manufacturers or suppliers are responsible for engaging with the LCA Practitioner and the LCA Critical Reviewer.



EPEAT Solar Category: Verification Entities for Ultra-Low Carbon Solar Criteria 4.1 and 4.2

Verification Entity	Designated Expert	Independent Third-Party Verifier	GEC-Approved CAB
Experience and Accreditation Requirements	Must be on GEC’s List of Designated Experts. Must have at least 10 years of experience in conducting and/or reviewing technical LCAs. Must have experience in engineering processes related to PV module manufacturing.	Must be accredited to ISO/IEC 17020, 17021, 17025, and/or 17065. Accreditation body must be signatory to IAF MLA (or ILAC MRA, if 17025). Must have experience in the PV industry.	Must be on List of GEC-Approved CABs.
Independence	Must be independent from LCA Practitioner (organization that performed the LCA), Critical Reviewer of LCA, and GEC-Approved CAB. Can be the Third-Party Verifier.	Must be independent from LCA Practitioner (organization that performed the LCA), Critical Reviewer of LCA, and GEC-Approved CAB. Can be the Designated Expert.	Must be independent from all other verification entities in this table.
Actions Performed	<p>Reviews LCA and underlying data and verifies:</p> <ul style="list-style-type: none"> LCA has addressed EPEAT requirements (as per Annex A2.3 of the criteria document). LCA data related to alternative global warming potential contribution coefficient are accurate. Energy assignment methods meet EPEAT requirements (as per Annex A2.3 of the criteria document). If applicable, production of silicon ingot includes required elements/processes. If self-generated renewable electricity is included, there is no double counting of Energy Attribute Certificates (EACs). Resulting alternative global warming potential contribution coefficient is accurate. 	<p>Prepares Verified Carbon Footprint and reviews all required information. May also perform the activities to generate the information below or facilitate the activities being performed:</p> <ul style="list-style-type: none"> Verified Carbon Footprint calculations (completed Table 1 in the criteria document). Supplier records / invoices (to confirm quantities in Table 1). Facility inspection reports (to confirm locations and processes for facilities in Table 1). Facility inspectors must be independent from the facilities being inspected. Product data sheet. Laboratory analysis of module sample (to confirm materials as per product data sheet). Laboratory must be accredited to ISO/IEC 17025 by an accreditation body that is a signatory to ILAC MRA. <p>If an alternative global warming potential contribution coefficient is used in the Verified Carbon Footprint, receives information on the alternative coefficient (LCA, critical review of LCA, and Designated Expert statement).</p>	<p>Verifies:</p> <ul style="list-style-type: none"> Package of information for ultra-low carbon solar criterion 4.1 and, if applicable, 4.2 and 4.3. Information for all other EPEAT criteria for the solar category.

Notes: Only GEC can identify which organizations are Designated Experts and GEC-Approved CABs. Participating Manufacturers are required to use one of the organizations on GEC’s approved lists. For all other Verification Entities, Participating Manufacturers may select any organization, as long as they meet the requirements for experience, accreditation, and independence. Participating Manufacturers are responsible for engaging with all Verification Entities identified above.





PLEASE CONTACT US IF YOU HAVE ANY QUESTIONS

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