
GEC List of Designated Experts for Ultra-Low Carbon Solar Criteria 4.1 and 4.2

Release and Effective Date: January 16, 2024

Document Number P94

Issue 1 Revision 0

Introduction

EPEAT Ultra-Low Carbon Solar Criteria 4.1 and 4.2 have specific layers of verification that must be performed by different verification entities. Annex 1 of this document identifies the different verification entities, the experience and accreditation requirements, the independence needed, and the actions each performs. Annex 2 of this document identifies the overall process flow of the required activities for Ultra-Low Carbon Solar Criteria 4.1 and 4.2.

When calculating the carbon footprint for Criteria 4.1 and 4.2, an alternative global warming potential contribution coefficient(s) may be used instead of the standardized values provided in Annex B, Table 3 of the criteria document. Alternative global warming potential contribution coefficients are determined using a life cycle assessment (LCA) for the specific manufacturing process step, and that LCA has been critically reviewed. In the EPEAT criteria document this is referred to as “Path B”.

When an alternative global warming potential contribution coefficient(s) is used, Designated Experts serve a unique role in the EPEAT verification process. Designated Experts review the data underlying the LCA and verify that EPEAT requirements for the LCA have been met and that the alternative global warming potential contribution coefficient is accurate. A statement from the Designated Expert must be provided as part of the overall EPEAT verification process.

Designated Experts must have at least 10 years of experience in conducting and/or reviewing technical LCAs and experience in engineering processes related to PV module manufacturing. Designated Experts must also be independent from the LCA Practitioner (organization that performed the LCA), the LCA Critical Reviewer, and the GEC-approved CAB. Note that Designated Experts may also serve the role of the Third-Party Verifier.

Only Designated Experts identified on the following page of this document may be used as part of the EPEAT verification process. GEC may update this list of Designated Experts on an as needed basis.

Please direct any questions on this document or the verification process for EPEAT Ultra-Low Solar Carbon Criteria to EPEAT@gec.org.

GEC List of Designated Experts

Organization	Contact Information	Additional Details
JR Heckman LLC	<p>Main contact:</p> <p>John Heckman Principal Consultant</p> <p>Mobile: +1 303-885-1025 Email: designated.experts@jheckman.com</p>	<p>John Heckman is an LCA expert with more than 25 years of experience conducting life cycle assessments across a broad array of industries. Dr. Heckman coordinated the Technical Committee of the Ultra-Low Carbon Solar Alliance to author the underlying product standard that provides the basis for the GEC PV Ultra-Low Carbon Solar criteria. As a Designated Expert within the GEC process, Dr. Heckman can complete the assurances required to verify alternative carbon coefficients based on LCA-derived values.</p>
Certisolis S.A.S.	<p>Main contact:</p> <p>Gisèle Bovo Responsable Qualité et Certification</p> <p>Telephone: + 33 (0)4 79 68 56 07 Mobile: +33(0)6 84 38 19 52 Email: designated.experts@certisolis.com https://www.certisolis.com/</p>	<p>CERTISOLIS is a French photovoltaic (PV) panel testing and certification laboratory, COFRAC accredited, for panel manufacturers and developers of solar power plants (investors, EPCs, operators). It allows players in the sector to promote the development of PV solutions with confidence, to choose products with the best guarantee of quality and durability.</p> <p>Certisolis is the only French certification body for photovoltaic products to carry out the “Simplified Carbon Assessment” required in calls for tender from the Regulatory Commission of Energy (CRE) on solar power plants. As an independent third party, Certisolis verifies the origin of the components and the calculation of the carbon evaluation, which secures the projects submitted to calls for tenders from the CRE.</p>

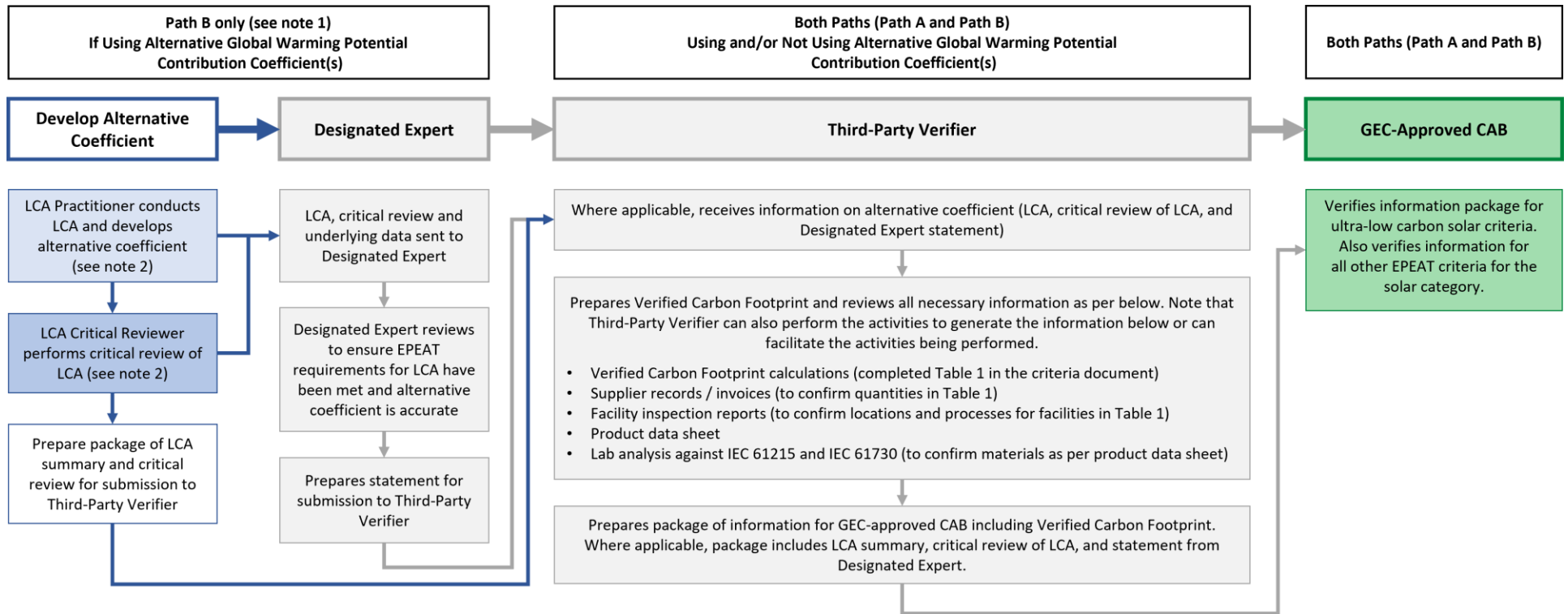
ANNEX 1: Verification Entities

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. Participating Manufacturers may select any Third-Party Verifier (and laboratory and independent facility inspectors), as long as they meet the requirements for experience, accreditation, and independence.

Participating Manufacturers are responsible for engaging with the Verification Entities identified below.

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 prepare 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.

ANNEX 2: 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.