2022 ACLCA PCR Guidance – Process and Methods Toolkit

Creating standardized, consistent, and reliable PCRs & EPDs for transparency, procurement, and supply chain data

Version 1.0 | May 25, 2022

American Center for Life Cycle Assessment | **aclca.org**

Foreward

With the increasing demand for using ISO Type III environmental declarations (EPDs) to communicate the potential environmental impacts of products and processes, EPDs are also being used to inform design and procurement decisions (The White House 2021, Buy Clean California 2021, Buy Clean Colorado 2021). This presents the critical need to create EPDs that are ISO *standards*-conformant, *consistent* with life cycle assessment (LCA) best practices and that enable digital communication with construction, accounting, and other reporting tools.

To that end, there is an urgency to create technical frameworks that support industry wide protocols for developing high quality product category rules (PCRs). Assuring the quality of PCRs will ensure that EPD results can *reliably* inform decision-making.

Published in 2013, the American Center for Life Cycle Assessment (ACLCA) PCR Guidance Development document (Ingwersen and Subramanian, 2013) has been the leading reference for program operators' PCR development process in North America. This 2022 version reflects the progress in the use of EPDs and program operators' experience over the past 9 years. The work to develop this update has been in process since 2018 including outcome of many stakeholder workshops and formal reviews including the ACLCA PCR committee reviews in 2020-21, and a formal public review in 2022.

2-part tool: Process (checklists) **+ methods & methodologies** (addenda)
The result has been to turn knowledge and experience into a living toolkit that provides both process and methodological guidance that will be updated regularly as knowledge and best practices continue taking shape.

The objective is for the toolkit is not only be used for the creation of new PCRs but also to determine if updates are needed for the existing PCRs for materials impacted by state and federal procurement legislations.

The ACLCA's goal for all North American program operators is to update their programs by adopting this toolkit for the delivery of standardized, consistent, and reliable PCRs and EPDs. To that end, the Program Operators' User Group has been created to participate in the evolution of this work.

We are honored to have the industry engage through feedback, use and ongoing technical development.

The checklists and addenda are available to download from the ACLCA website
Go there to sign up for updates, news and events. https://aclca.org/pcr/

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Introduction

Background

This guidance builds on the *Guidance for Product Category Rule Development* document developed by the Product Category Rule Guidance Development Initiative in 2013 (Ingwersen and Subramanian 2013), previous research that worked towards the harmonization of PCRs (Minkov et al. 2015), recent work funded by the Federal Highway Administration to support consistency in PCRs for pavement construction and procurement (Bhat et al. 2021), and best practices in programs around the world to develop internationally relevant guidance.

With the evolution of the industry and increasing demand for EPDs to inform selection and procurement decisions, the need to create EPDs that are ISO standard-conformant, consistent, and reliable is critical. There is an urgency to create technical frameworks that support industry wide protocols for developing high quality PCRs. *Assuring the quality of PCRs will ensure that EPD results can reliably inform decision-making.*

In response, the American Center for Life Cycle Assessment (ACLCA) set out to develop the next version.

Rather than publishing a document, this version has been conceived as a toolkit that will provide both process and methodological guidance with ongoing maintenance and development to respond to industry requirements.

Current state of PCRs & EPDs

An assessment of current PCRs demonstrates that significant differences in the level of conformance with ISO standards can be easily identified (Bhat 2020). While standards such as ISO 21930 (core PCR), ISO 14025, ISO 14027, and EN 15804 provide requirements for developing PCRs, further guidance is necessary for stipulating consistency across related supply chains. Deeper assessments of PCRs can often reveal opportunities for improvement by identifying the *gaps that make EPDs not comparable, and results less useful as data sources.* For example, some PCRs do not have supporting ISO conformant, critically reviewed LCAs as required by ISO 14025. Few identify preferred background datasets and foreground data collection protocols.

Because of the differences in current PCRs, LCA practitioners often have limited guidance when developing EPDs, resulting in inconsistencies between EPDs even from the same program. In addition, there is limited consensus-based guidance for harmonizing PCRs.

Consistency in PCR development practice lies at the heart of ensuring the reliable use of EPDs. When used in the context of public procurement, the transparency of process and uniformity of practice is crucial for building trust and getting buy-in from stakeholders (Rangelov et al. 2021).

EPD use cases

As the Buy Clean family of legislation is taking shape, a range of practical use cases is emerging ***based on accountability expectations*** *(Carbon Leadership Forum 2020).* EPDs are being used for:

1. **Transparency** – The baseline use case, EPDs provide transparency to the underlying processes by specifying detailed system boundaries, listing unit processes and impact assessment methods used to quantify the potential environmental impacts of products and processes.
2. **Procurement** – EPDs used to support procurement decisions require a higher level of prescriptiveness. For example, prescribing common public background databases with data quality assessment
3. **Data source** – EPDs as data sources, a.k.a. building blocks, are used in complete life cycle assessment to support engineering and design. This requires harmonization with products and co-products up and down the supply chain, prescribing common public background datasets, and a rigorous assurance of data quality and completeness.

In this context, there is an additional need to allow for flexibility amongst the various EPD programs while communicating the differences between PCRs specifically and identifying criteria most critical to supporting each use case. This framework:

- Enables **customers** to easily identify EPDs aligned with their specific use case
- Provides guidance to **program operators** and **PCR committees** with the criteria to meet such goals
- Provides **PCR review panels** a detailed rubric to evaluate the PCR.

Who this guidance is for

This guidance is for program operators and entities intending to develop PCRs for the North American market. It provides a common framework for program operators with shared supply chains to work towards harmonizing their PCRs. The 2013 ACLCA PCR Guidance focused on global harmonization. This version focuses on providing more specificity and technical guidance for North America EPD Programs in response to recent legislative efforts.

The ISO standards governing EPD programs identify three entities: Program Operator (PO), PCR Committee, PCR Reviewer Panel, that shall be involved in the process of developing PCRs. The criteria in this guidance are organized into checklists for each entity's process and responsibilities.

1. Program Operator	2. PCR Committee	3. PCR Review Panel
ISO 14025:2006 defines the Program Operator as a body or bodies that conduct a Type III environmental product declaration program. The PO is responsible for: • Facilitating the creation, verification, and maintenance of the PCRs and ensures EPDs are verified and published • Convening the PCR Committee and ensuring it is a balanced and representative stakeholder group • Convening the PCR Review Panel	The PCR Committee is comprised of many stakeholders who either manufacture the product, use the product, or are subject matter experts, life cycle assessment experts, or an interested party (government or non-governmental organizations). The committee is responsible for making the domain specific decisions and ultimately drafting the PCR.	The PCR Review Panel is a third-party panel composed of a minimum of three members (chair and two members) convened by the PO. The panel should be comprised of at least one LCA expert (preferably with a background in the product category under consideration and in product-related environmental aspects) and one expert for the specific product category identified in the PCR.

How to use the checklists

The checklists are designed for program operators to improve the rigor of the EPDs required for an identified use case and for material specifiers to understand the rigor to be able to identify EPDs that meet the requirements. Designed for the creation of new PCRs, they can also be used to review existing PCRs for materials identified in state and federal legislation relating to procurement to determine if updates might be needed.

Comprised of **68 total criteria**, there is a checklist for each entity (Program Operator, PCR Committee, PCR Reviewer Panel). Each criterion is identified as required for one of the EPD use case levels. *'Shall'* indicates it is required to meet the identified use case level; *'should'* is a strong recommendation.

EPD use case levels are cumulative. Transparency is the baseline.

3 Data source (4)	**All** Transparency, Procurement AND Data Source criteria	**…must be documented to create a conformant PCR for that level.**
2 Procurement (22)	**All** Transparency AND Procurement criteria	
1 Transparency (42)	**All** Transparency criteria	

Documentation is required to meet each criterion. It may be included in the PO's General Program Instructions (governance document), PCR supporting documentation, or the PCR itself.

Criteria for the process of implementing the guidance

Identified in red text in each entity's checklist are tasks regarding how to use the guidance and checklists. The PCR Review Panel will be adding more quality assurance to its role by ensuring the other entities' checklists are completed and the prescribed supporting documentation has been provided.

#	Criteria	Documentation
1. Program Operator (PO)		
1	Prior to using the ACLCA PCR Guidance 2022 to develop PCRs, the PO **shall** use this guidance to develop and publish conformant program instructions that describe the process of PCR development aligned with ISO/TS 14027.	**General program instructions (governance document):** ACLCA PCR Guidance 2022 conformant statement with version number
2	PO **shall** use this checklist to guide the creation of a PCR, identify how criteria were met, and provide the completed Program Operator Checklist and PCR Review Panel Checklist to the PCR Review Panel.	**PCR supporting documentation:** Completed checklist
15	PO **shall** ensure the PCR Review Panel provides comments within a 90-day period.	**PCR supporting documentation:** Date(s) PCR review period
16	PO **should** include a statement adjacent to the PCR Review Panel attribution to indicate conformance with this guidance (including version number) and the EPD use case level.	**PCR:** Conformance statement and EPD use case level
17	To manage the expectations of PCR users, the PO **shall** post update information on its website at least four months in advance of the expiration date. The update options include: extending the current PCR, updating the PCR, or letting the PCR expire with no update. If information is not provided within this timeframe, other POs may proceed with the update and post PCR update information on their website.	URL of PO's PCRs undergoing updates

20	PO **shall** include a statement adjacent to the PCR name to indicate conformance with this guidance and the EPD use case level.	**PCR:** Statement text included in EPD template
21	PO **shall** ensure that the type of EPD developed is clearly noted on the EPD. *Note: Refer the 'EPD Types' addendum.*	**PCR:** Statement text included in EPD template:
2. PCR Committee		
1	PCR Committee **shall** use this checklist to guide the creation of a PCR, identify how criteria were met, and provide the completed checklist to the PO to provide to the PCR Review Panel.	**PCR supporting documentation:** Completed checklist
3. PCR Review Panel		
1	The PCR Review Panel **shall** use this checklist to guide their process of reviewing the PCR.	**PCR supporting documentation:** Completed checklist
5	The PCR Review Panel **shall** verify conformance the Program Operator and PCR Committee checklists and the appropriate category of EPD use is identified.	**PCR supporting documentation:** Reviewers' sign-off and/or list of any deviations from this guidance. All three completed checklists returned to the PO.

Methods / methodologies addenda

Following is the list of currently identified topics. Working groups have been created to complete these and others as future requirements are identified.

Published

1. **Allocating Burdens and Benefits of Materials Shared Across Product Systems**
2. **Assessing Data Quality of Background Life Cycle Inventory Datasets**

In development

3. EPD Comparability and Digital EPDs / Open EPD
4. Types of EPDs
5. EPD Comparability Disclaimer Text
6. Biogenic Carbon Accounting
7. Renewable Energy Accounting
8. Buy Clean Legislation
9. Industry-wide EPD Benchmarking
10. Circular Scenarios (Module D)

***Interested in participating in an addendum working group or suggesting a topic*?**

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The checklists and addenda are available to download from the ACLCA website Go there to sign up for updates, news and events. https://aclca.org/pcr/

References

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State of Colorado, 2021. *Measures To Limit the Global Warming Potential for Certain Materials Used in Public Projects*. General Assembly of the State of Colorado.

The White House, 2021. Executive Order on Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability. Washington D.C.

PCR name Start date | PO name | PO contact name & email **EPD use case goal:** 1, 2 or 3

EPD use levels are cumulative. Transparency is the baseline. To create a 'Data source' conformant PCR, all criteria in all checklists must be documented.

3 Data source
2 Procurement
1 Transparency

1. Program Operator (PO) checklist Version 1.0, May 25, 2022 | ACLCA PCR Guidance 2022

Categories	#	Criteria	ISO reference	Supporting documentation	EPD use
Organizational		**Ground rules**			
	☐ 1	Prior to using the ACLCA PCR Guidance 2022 to develop PCRs, the PO **shall** use this guidance to develop and publish conformant program instructions that describe the process of PCR development aligned with ISO/TS 14027.	**This guidance**	**General program instructions (governance document):** • ACLCA PCR Guidance 2022 conformant statement with version number	**1 Transparency**
	☐ 2	PO **shall** use this checklist to guide the creation of a PCR, identify how criteria were met, and provide the completed Program Operator Checklist and PCR Review Panel Checklist to the PCR Review Panel.	**This guidance**	**PCR supporting documentation:** • Completed checklist	**1 Transparency**
	☐ 3	PO **shall** be the secretariat of the PCR and manage an open and transparent process to develop or update a PCR. This process **shall** include public notices prior to PCR development and an open consultation process with interested parties while the PCR Committee remains active. PO **shall** publish the intention to develop (or update) a PCR on its website, in relevant industry and trade publications and/or news services, and through centralized notification mechanisms. The announcements **shall** include contact information that allows interested parties to request more information about participation in the PCR development or review process. Interested parties may include material suppliers, manufacturers, trade associations, purchasers (such as architects, designers, specifiers, contractors, and engineers), users, non-governmental organizations (NGOs), and public agencies.	**14027 Clause 6.4.1**	**PCR supporting documentation:** • Date(s) announcement(s) were posted and where	**1 Transparency**
	☐ 4	PO **shall** determine whether to create a new PCR or to adapt an existing PCR from other geographic regions. The PO **shall** justify the determination in the PCR.	**14027 Clause 6.4.2, 6.4.3**	**PCR:** • Identify existing PCRs considered, and provide justification for creating a new PCR. • If new, identify the supporting LCA. • Describe how existing PCRs will be adapted.	**2 Procurement**
	☐ 5	PO **shall** evaluate upstream and downstream PCRs in the value chain to be considered for alignment. PO **shall** list relevant PCRs in the PCR. *Note: Also see Criterion 15 for the process of determining when a PCR may be updated.*	**14044** **14027 Clause 6.4.3** **This guidance**	**PCR supporting documentation:** • Identify existing upstream PCRs for the major inputs to the product(s) considered in the PCR. • Describe differences in allocation rules or other potential conflicts and how they were resolved. • Identify existing downstream PCRs that use products/materials from the PCR and how inconsistencies were resolved.	**3 Data source**
	☐ 6	PO **shall** harmonize PCR activities with other EPD programs to avoid unnecessary duplication and proliferation of similar PCRs, and align on mutual recognition agreement (MRA) requirements. PO **shall** list relevant PCRs in the PCR. *Note: Refer to both the ACLCA's PCR library and the North American PCR Catalog: Building & Construction Materials https://www.transparencycatalog.com/na-pcr-catalog-building-products*	**14027 Clause 6.5.5** **14029 Clause 7, 9.2**	**PCR supporting documentation:** • Identify whether this criteria is applicable. • Identify other POs engaged to harmonize PCR activities and opportunities explored (joint development of new, merging, application of existing, or adaption of existing). • MRA between POs one exists.	**1 Transparency**
	☐ 7	PO **shall** publish and implement procedures for an appeals mechanism to ensure prompt and impartial handling of procedural complaints regarding any action or inaction of the PCR Committee, PCR Review Panel, or Program Operator.	**14027 Clause 6.4.4**	**General program instructions (governance document):** • Explanation of appeals process	**1 Transparency**
	☐ 8	PO **should** include a method for addressing data quality in its general program instructions. *Note: Refer to the addendum "Assessing Data Quality of Background Life Cycle Inventory Datasets"* for an example data quality assessment method.		**General program instructions (governance document):** • Method for Data Quality Assessment	**2 Procurement**
		PCR committee formation			
	☐ 9	PO **shall** actively reach out to interested parties (including parties outside the PO's country or region) to ensure that the PCR Committee is composed of independent members, making sure that the interests of one party do not dominate the PCR development process. No single interested party category (at individual, organizational, or sectoral levels) shall dominate the membership of a PCR Committee. Interested parties may include material suppliers, manufacturers, trade associations, purchasers (such as architects, designers, specifiers, contractors, and engineers), users, non-governmental organizations (NGOs), and public agencies.	**14025 Clause 5.5, 6.5, & 9.3** **14027 Clause 6.4.1 and 6.4.2**	**PCR:** • List of PCR Committee members with employer and/or other entity on behalf of which they are participating. **PCR supporting documentation:** • Description of interested party outreach efforts and explanation of interested parties that did not participate.	**1 Transparency**
	☐ 10	PO **shall** address potential conflicts of interest developing the PCR and fully disclose funding sources for the management to interested parties. If significant external funding was made by one or more parties to support the development, the PO **should** put in place procedures to ensure that no conflict of interest occurs in the PCR process. 'Significant funding' is defined as more than $10,000 or its in-kind equivalent, or 20% or more of the anticipated funding needs.	**US EPA Environmentally Preferable Purchasing Program Framework for the Assessment of Environmental Performance Standards and Ecolabels for Federal Purchasing. https://www.epa.gov/system/files/documents/2022-02/updated-framework_020222.pdf**	**PCR supporing documentation:** - The policy or procedure in use when the PCR was developed covering conflicts of interest, separation of organizational functions necessary to address any potential conflict of interest. - Attestation that this policy or procedure was followed during the development. The evidence must also include one of the following: - Documentation that original sources of funding were disclosed to interested parties, such as a disclosure statement, or in meeting minutes for relevant working groups.	**1 Transparency**
		Content of PCR			
	☐ 11	The PCR **shall** report on the following items: • Name and registration number of the PCR • General information about the program: name of the program, contact information, logo, and website if applicable • PCR Committee members and affiliations • Publication date • Expiration date and renewal schedule • Types of product claims covered by the PCR, with references to standards • Product category • Geographical representativeness of the PCR • Original language and translations (if existing) • How to make comments to the PCR	**14027 Clause 6.5**	**PCR:** • Draft PCR that includes all items reported	**1 Transparency**
	☐ 12	The PCR **shall** report the following information about the review process and background of the PCR: • Review panel member information • Open consultation period and participants • Other existing PCRs for the product category and reasons for developing a new one • Reference to underlying LCAs • Confirmation statement that the PCR was created in conformance with this ACLCA PCR Guidance (including version number)	**14025 Clause 5.5, 8.2** **14027 Clause 5.2, 6.4.4** **14025 Clause 6.7.1, 6.7.2** **14027 Clause 6.1, 6.4.3, 6.5.3, 7.1d**	**PCR:** • Draft PCR that includes all items except 'open consultation period' **PCR supporting documentation:** • Open consultation period and participants	**1 Transparency**
		PCR revi			

	☐	13	PO **shall** set up an independent third-party review panel composed of a minimum of three members (a chair and two members). The combined competencies of the panel **shall** include, at a minimum, expertise in LCA and in the relevant product sector. *Note: Refer to the PCR Review Panel Checklist for review panel expectations.*	**14027 Clause 7.1, 7.2, 7.3, 14025 Clause 8.2.3**	**PCR:** • List of review panel members	**1 Transparency**
	☐	14	PO **shall** also set up an open consultation review.	**14027 Clause 6.4.4, 7.3**	**PCR supporting documentation:** • Date(s) open consultation period(s) announced, where/how; aggregated comments spreadsheet	**1 Transparency**
	☐	15	PO **shall** ensure the PCR Review Panel provides comments within a 90-day period.	**This guidance**	**PCR supporting documentation:** • Date(s) PCR review period	**1 Transparency**
	Publication, new and updated PCRs					
	☐	16	PO **shall** be responsible for publishing and maintaining the PCR. The published PCR shall be publicly available on the PO's website, free for any other PO to use. PO **shall** write out the publication date (e.g., June 25, 2022) and expiration date (e.g., June 24, 2027). PCRs **shall** have a validity period of no more than five years from the publication date. PCRs are invalid beyond the expiration date. PO **shall** provide the schedule for renewal, if applicable. PO **should** include a statement adjacent to the PCR Review Panel attribution to indicate conformance with this guidance (including version number) and the EPD use case level. PO **should not** act as a barrier to translating the PCR and should act as a facilitator for the translation.	**14025 Clause 6.4, 6.7.1** **14027 Clause 8.1.1** **This guidance**	**PCR supporting documentation:** • URL of PO's published PCRs page • URL PCR will be available at when published **PCR:** • Validity period of PCR • Conformance statement and EPD use case level	**1 Transparency**
	☐	17	To manage the expectations of PCR users, the PO **shall** post update information on its website at least four months in advance of the expiration date. The update options include: extending the current PCR, updating the PCR, or letting the PCR expire with no update. If information is not provided within this timeframe, other POs may proceed with the update and post PCR update information on their website.	**This guidance**	• URL of PO's PCRs undergoing updates	**1 Transparency**
	☐	18	To update a PCR during the validity period, the PO **shall**: 1. Notify the original PCR Committee members and original Review Panel. 2. Consult ISO 14027 to confirm the reason to update is valid. 3. Create or update the ACLCA PCR Guidance Checklists for the PCR. 4. Open consultation to interested parties. 5. Update the PCR. 6. Obtain sign-off by PCR Review Panel. 7. Republish an updated version and include a change log at the start of the document. 8. Announce the updated version. 9. Update the ACLCA PCR Repository. In the case that an existing PCR does not meet the requirements for creating EPDs for public or private procurement purposes, the PO **shall** make an effort to first engage the commissioner of the PCR to reconvene the PCR Committee in order to make the required updates. If the PCR commissioner does not reconvene the PCR Committee within 30 days of the PO's request, then the PO may proceed to develop a new PCR using the existing PCR as an informative input document.	**14027 Clause 9**	**PCR:** • Valid update reason **PCR supporting documentation:** • Checklists	**1 Transparency**
	☐	19	For substantial PCR updates (e.g., updates that impact the results of an EPD), the PO **shall** contact manufacturers in their program with valid EPDs and other POs to bring attention to the PCR changes and encourage that they update accordingly.	**14027 Clause 9**	**PCR supporting documentation:** • Description of notification and dates of outreach	**1 Transparency**
	EPD template					
	☐	20	PO **shall** create a standard EPD template to be used for all EPDs that can be customized per PCR to identify requirements unique to each. Consider both digital and print (PDF) publishing. *Note: Refer to the 'EPD Comparatibility and Digital EPDs / Open EPD addendum.* PO **shall** include a statement adjacent to the PCR name to indicate conformance with this guidance and the EPD use case level.	**This guidance**	**PCR:** • EPD template document prepared for this PCR • Statement text included in EPD template	**1 Transparency**
	☐	21	PO **shall** ensure that the type of EPD developed is clearly noted on the EPD. *Note: Refer the 'EPD Types' addendum.*	**This guidance**	**PCR:** • Statement text included in EPD template	**1 Transparency**
Goal and scope	☐	22	Product categories **shall** be primarily defined and sufficiently described by product functionality, technical performance, and use. The PCR **shall** clearly define the product groups for which the rules apply, both by using descriptive language and by using the relevant codes for any of the existing classification systems relevant to the product category and region. Products NOT covered by the PCR **shall** be clearly listed (as a clarification when products are similar). PO **should** ensure that the product classification systems are not to be the single determining factor for defining the product category. The PCR is encouraged to provide sufficient information to clearly describe the scope of products and services for which the rules apply.	**14027 Clause 8.1.1**	**PCR:** • Draft PCR which includes all the items	**2 Procurement**

PCR name Start date | PO name | PO contact name & email **EPD use case goal:** 1, 2 or 3

EPD use levels are cumulative. Transparency is the baseline. To create a 'Data source' conformant PCR, all criteria in all checklists must be documented.

3 Data source
2 Procurement
1 Transparency

2. PCR Committee checklist Version 1.0, May 25, 2022 | ACLCA PCR Guidance 2022

Categories	#	Criteria	ISO reference	Supporting documentation	EPD use
Documentation	☐ 1	PCR Committee **shall** use this checklist to guide the creation of a PCR, identify how criteria were met, and provide the completed checklist to the Program Operator to provide to the PCR Review Panel.	**This guidance**	**PCR supporting documentation:** • Completed checklist	1 Transparency
	☐ 2	PCR Committee **shall** thoroughly document the use of an existing PCR as an informative document in any adaptation to create a new PCR. Include the PO name, existing PCR name, product category classification, link to the existing PCR, and provide justification for adapting the existing PCR.	**14027 Clause 6.4.3 and this guidance**	**PCR:** • Link to PCR Committee's documentation of adaptation	2 Procurement
	☐ 3	PCR Committee **shall** respond to each comment from the PCR Review Panel and public consultation. Responses should address any conflicting comments provided by the PCR Review Panel.	**This guidance**	**PCR supporting documentation:** • Link to PCR Committee's documented public response to comments and consultation on PO's website (aggregated comments spreadsheet).	1 Transparency
	☐ 4	PCR Committee **shall** provide a limited description of the involvement of interested parties for open consultation. Specifically, the PCR should provide: • **The name and/or affiliation of the stakeholders who participated in the open consultation.** • **The dates of the open consultation period.** Public consultation should be utilized during the PCR review process. The public consultation of the completed draft PCR should include at a minimum a 30-calendar-day time period for comments to be submitted.	**14025 Clause 5.5** **14027 Clause 5.2, 6.4.4**	**PCR:** • Draft PCR that includes list of participating interested parties and dates of consultation period.	1 Transparency
Compliance	☐ 5	PCR Committee **shall** ensure that the underlying LCA meets the requirements of ISO 14044 and other pertinent standards and that, according to these standards, it has either been critically reviewed by a third party or has undergone an internal verification, either by the PCR Committee itself or appointed independent LCA expert.	**14025 Clause 6.7.1, 6.7.2, 8.1.3, 8.2.1, 8.2.2** **14027 Clause 5.1, 6.1, 6.5.3, 7.1d**	**PCR supporting documentation:** • Link to documentation of LCA review or internal verification.	2 Procurement
	☐ 6	PCR Committee **shall** ensure that the PCR is compliant with any referenced standards and relevant program instructions under which it is developed.		**PCR:** • List of referenced standards and link to relevant program instructions.	1 Transparency
	☐ 7	PCR Committee **shall** establish LCA requirements that are consistent with ISO 14044. The PCR Committee is encouraged to develop end-use case scenarios for the PCR-compliant EPDs and to incorporate considerations for these use cases into the underlying LCA.	**14025 Clause 6.7.1, 6.7.2** **14027 Clause 5.1, 6.1, 6.5.3, 7.1d**	**PCR supporting documentation:** • Third-party reviewed ISO 14040/44 conformant LCA of the product categories under consideration. The LCA will reflect cases in which the EPD may be interpreted in use.	1 Transparency
Goal and scope	**Ground rules**				
	☐ 8	PCR Committee **shall** ensure that all rules for LCA are specified and harmonized with upstream and downstream PCRs (if available) in conformance with relevant standards, including: specification of the functional unit, scope of the study, inventory collection, any allocation rules, impact assessment, and rules for additional information.	**14044** **14027 Clause 6.5.3**	**PCR:** • Draft PCR with list of specifications	3 Data source
	☐ 9	PCR Committee **shall** ensure that the product category used in the underlying LCA supporting the PCR is directly applicable to the PCR.	**14025 Clause 3.14, 6.6, 6.7.2** **14027 Clause 6.5.2, 6.5.3**	**PCR:** • Specification and justification of the product category and applicable functional unit.	2 Procurement
	☐ 10	PCR Committee **shall** define the study scope and EPD type for construction products and services.	**21930 Clause 5.2.1, 5.2.2**	**PCR:** • Draft PCR with specification of scope as cradle-to-gate or cradle-to-gate with options or cradle-to-grave.	1 Transparency
	☐ 11	PCR Committee **shall** ensure that a clearly defined and measurable functional or declared unit is included in the PCR for construction products and services.	**21930 Clause 7.1.2, 7.1.3**	**PCR:** • Draft PCR with detailed description of the application and suitability of defining functional and declared units, respectively.	1 Transparency
	☐ 12	The PCR Committee **shall** determine which EPD types may be developed (ex: product-specific, industry-wide) and state the specific data requirements for each type. Any other terminology describing types of EPDs should be discouraged. *Note: Refer to the 'EPD Types' addendum for descriptions.*	**ISO 21930 Annex B and 'EPD Types' addendum**	**PCR:** • Draft PCR with description of the EPD types with specific data requirements	1 Transparency
	System boundary				
	☐ 13	PCR Committee **shall** determine the level of granularity of unit processes specified by the PCR to be included in the underlying LCA supporting the EPD and ensure that these are consistent with the study's goal of using well-identified and explained criteria.	**14044 4.2.3.3** **14027 Clause 6.5.3** **21930 Clause 7.1.9 for construction products & services**	**PCR:** • Draft PCR with list of all unit processes that include all service, material, and energy flows directly connected to the study project and its ability to perform its function.	3 Data source
	☐ 14	PCR Committee **shall** ensure that the PCR requires: 1) at minimum, a cradle-to-gate[1] system boundary and that any deviation is explicitly specified and justified; and 2) the use of the recycled content (i.e., cut-off) approach for end-of-life allocation of environmental burdens between product systems. [1] "Gate" represents the finished and packaged product at the manufacturing facility just prior to shipping.	**14044 Clause 4.2.3.3.1** **14025 6.7.2b, 6.7.2c, 6.7.2j, 7.2.5** **14027 6.5.3b, 6.5.6**	**PCR:** • Draft specification of the system boundary and justification of any system boundary minimum requirement deviations (where applicable).	2 Procurement
	☐ 15	PCR Committee **shall** ensure that the PCR specifies the capital goods and infrastructure to be included in cases whenever it is feasible. The PCR Committee is encouraged to specify lifetimes or standardized methods of computing lifetimes, as well as the depreciation method utilized to allocate the burden of capital goods over their service period, with any deviations from the default approach explicitly specified and justified.	**This guidance**	**PCR:** • Draft PCR that includes all items	2 Procurement
	☐ 16	PCR Committee **shall** develop scenarios representing a set of domain-specific standard guidelines for any and each life cycle stage to be included beyond cradle-to-gate (i.e., A1-A3) in the PCR scope and require LCA results for these be reported. The PCR **shall** also prescribe assumptions for scenarios in cases where there is no discernable difference between one product and another in the same category for use and end-of-life stages. The PCR Committee **should** include criteria in the PCR for deviation from the prescribed scenarios.	**This guidance**	**PCR:** • Where applicable, list of scenarios and associated assumptions.	2 Procurement
	☐ 17	PCR Committee **shall** specify whether the benefits and loads beyond the system boundary (i.e., Module D) are to be included in the EPD. If so, the PCR **shall** describe the specific scenario(s), benefits, and loads to be considered and reported separately in relevant EPDs communicating the full life cycle (cradle-to-grave) impacts of a product. *Note: Refer to the 'Circular Scenarios (Module D)' addendum.*	**This guidance and 'Circular Scenarios (Module D)' addendum**	**PCR:** • Where applicable, list of scenarios and concomitant benefits and loads to be included.	2 Procurement
	Data collection				

Life cycle inventory	☐ 18	PCR Committee **shall** prescribe acceptable primary data collection practices and clearly specify the scope and data quality for secondary data with recommendations for use of specific datasets or databases facilitating this process. Datasets used for calculations **shall** have been updated within the last 10 years for background data and within the last 5 years for producer-specific (foreground) data; deviations shall be justified. Where databases are required, alternatives or modifications shall be proposed for geographic areas or technologies beyond the scope of the specified dataset(s). Any deviation from the recommended background (secondary) datasets in the PCR shall be clearly specified and justified. In addition, the PCR **shall** require EPDs to disclose the reporting period for primary and secondary data. *Note: Refer to the 'Assessing Data Quality of Background Life Cycle Inventory Datasets' addendum.*	**ISO 21930 Clause 7.1.9 and 'Data Quality and Secondary Background Datasets' addendum**	**PCR:** • Draft PCR that includes all items	**2 Procurement**
	☐ 19	PCR Committee **shall** identify and ensure that the PCR specifies the selected LCIA indicators or additional information requirements for which relevant inventory information shall be collected.	**14025 Clause 7.2.2, 7.2.3 14027 Clause 6.5.4, 6.5.5, 6.6**	**PCR:** • Draft PCR that includes all items	**1 Transparency**
	☐ 20	PCR Committee **shall** specify, based on the underlying LCA and/or additional studies informing the PCR, all the data that are to be collected (rather than specifying cut-off criteria for the inventory).	**14025 Clause 7.2.3, 7.2.4 14027 Clause 6.6**	**PCR:** • Draft PCR that includes all items	**2 Procurement**
	☐ 21	PCR Committee **shall** specify the type of data to be collected. The committee is encouraged to follow standard data collection examples for foreground (primary) data collection.	**21930 Clause 7.1.9 14044 Annex A**	**PCR:** • Draft PCR with data collection sheet example specific to PCR	**2 Procurement**
	Data quality				
	☐ 22	PCR Committee **shall** refer to relevant guidance to consider parameters for assessing data quality of both foreground (primary) and background (secondary) data. *Note: Refer to the 'Assessing Data Quality of Background Life Cycle Inventory Datasets' addendum which provides a data quality assessment method.*	**21930 Clause 7.1.9 14044 Clause 4.2.3.6 14025 Clause 6.7.2 14027 Clause 6.2**	**PCR supporting documentation:** • Complete data quality assessment for both foreground (primary) and background (secondary) data. This information shall also be included in the underlying LCA, and reviewed.	**1 Transparency**
	Background/secondary data				
	☐ 23	PCR Committee shall ensure that the PCR specifies background (secondary) data quality requirements such that differences between claim results are rooted in actual technical differences, rather than artifacts of background data or the platform. If a secondary data source does not meet the required quality specified by the PCR, it shall be verified by the program operator that better data is not available. *Note: Refer to the 'Assessing Data Quality of Background Life Cycle Inventory Datasets' addendum which provides a data quality assessment method.* For example, as detailed in this addendum, the most recent version of background data for baseline electricity from Federal LCA Commons met the data quality requirements and is recommended to be specified across PCRs (with the LCI and method compatible with the Federal Elementary Flow List (FEDEFL) from https://www.lcacommons.gov/.	**Assessing Data Quality of Background Life Cycle Inventory Datasets' addendum**	**PCR:** • Draft PCR with list of background (secondary) data sources and default LCIA method(s)	**2 Procurement**
	Foreground/primary data				
	☐ 24	PCR Committee **shall** ensure that the PCR specifies primary data be collected for every process in the product system under the control of the organization making the product claim. The PCR Committee is encouraged to specify that data specific to the investigated product scope and supply chain are preferable to generic data, particularly in unit processes considered to have a significant contribution to the product life cycle. For EPDs seeking transparency-level conformance with this guidance, the PCR **shall** require the following: EPDs that use secondary data for any unit process that contributes 30% or more to any disclosed environmental impact category shall disclose the data source (database name and version, dataset name, dataset geography, and dataset allocation method).	**This guidance**	**PCR supporting documentation:** • Foreground (primary) data collected in conducting the underlying LCA, and the sensitivity of LCIA outcomes to variability in the foreground data. A facility-specific data collection protocol shall also be included.	**1 Transparency**
	☐ 25	For EPDs seeking procurement-level conformance with this guidance, the PCR **shall** require that EPDs use facility-specific data for upstream unit processes that cumulatively contribute 50% or more to the disclosed total global warming potential. In situations where facility-specific data is not available for the upstream unit processes, and such a facility is required to report to the EPA Greenhouse Gas Reporting Program (GHGRP), the PCR **shall** require the EPD to disclose in the Additional Environmental Information section: the carbon intensity of the manufacturing plant (carbon emitted per metric ton of product manufactured) from which these products, and/or the quartile in which in which the manufacturing plant resides where benchmarks have been published [https://www.epa.gov/ghgreporting/ghgrp-minerals]. Carbon intensity shall be calculated by dividing the emissions reported to the EPA GHGRP by plant production. Emission and production data must be from the same reporting period using the most recent year of data. When a published ENERGY STAR Energy Performance Indicator is available for a product or constituent upstream product, the PCR **shall** require the EPD to disclose in the Additional Environmental Information section: the ENERGY STAR Energy Performance Score for the manufacturing plant in which the product or constituent upstream product was manufactured, and the reporting period of the underlying data. See https://www.energystar.gov/industrial_plants/energy_star_plant_certification/buy_clean_procurement_and_energy_star_0 for more information.	**This guidance**	**PCR:** • Draft PCR that includes all items	**2 Procurement**
	☐ 26	PCR Committee **shall** ensure that the PCR specifies the means by which primary data should be collected and may provide templates to facilitate harmonized data collection, metadata recording, and results reporting. If the specified data collection means are unachievable for a specific EPD developer, the PCR **shall** designate that the developer records the data collection method(s) utilized in the data description.	**14025 Clause 6.7.2**	**PCR:** • Specification of data collection methods (e.g., measured, calculated, estimated)	**1 Transparency**
	Data assumptions				
	☐ 27	PCR Committee **shall** specify all parameters of assumed scenarios for use and end-of-life stages so as to ensure comparability and consistency of results. If a manufacturer wishes to define their own scenario(s), they **shall** be based on primary data.	**This guidance and the 'Circular Scenarios (Module D)' and the 'Allocating Materials Shared Across Product Systems' addendu**	**PCR:** • List of parameters for use and end-of-life stage scenarios	**2 Procurement**
	☐ 28	PCR Committee **shall** ensure that the PCR provides worst-case (i.e., 'conservative') default values for scenario data of the specified processes where no data are available for the EPD developer.	**This guidance**	**PCR:** • List of worst-case (i.e., 'conservative') default scenario values	**2 Procurement**
	Data compliance				

	☐ 29	PCR Committee **shall** ensure that claims made in the PCR are based on the results of an LCIA, LCI, and/or substantiated and verifiable additional information modules relevant to the product category.	**14027 Clause 6.6**	**PCR:** • An underlying LCA with supporting LCIA and LCI for all PCR guidelines	**1 Transparency**
	☐ 30	PCR Committee **shall** ensure that the PCR states data quality requirements for all data applicable for use in claims. These data **shall** be verified to be compliant with the established PCR data quality requirements and those for foreground (primary) and background (secondary) data. The PCR **shall** specify that a data quality assessment be performed on all collected foreground (primary) data and may provide templates to facilitate harmonized primary data collection, assessment, reporting, and verification. *Note: Refer to the 'Assessing Data Quality of Background Life Cycle Inventory Datasets' addendum.*	**This guidance**	**PCR:** • Data quality assessment criteria and/or template	**3 Data source**
	☐ 31	PCR Committee **shall** ensure that PCR-designated background (secondary) data sources be specified and verified such that: • Data for electricity, transportation, basic fuels, and heavy equipment operation are the most current versions from common public background data (e.g., for North America, LCI and method compatible with the Federal Elementary Flow List (FEDEFL) from https://www.lcacommons.gov/). • Temporal, geographical, and technological coverage of the secondary data is compatible with the scope of the PCR. • System boundaries are equivalent, and reference flows are adaptable to the product system specified in the PCR. • Sources of secondary data are cited. • Allocation procedures used for secondary data are appropriate for the system under study.	**This guidance and 'Assessing Data Quality of Background Life Cycle Inventory Datasets' and the 'Allocating Materials Shared Across Product Systems' addenda**	**PCR:** • Draft PCR with list of background (secondary) data sources and default LCIA method(s)	**2 Procurement**
	Allocation				
	☐ 32	PCR Committee **shall** ensure that the PCR specifies which processes are to be subdivided if allocation can be avoided in this manner wherever feasible. The PCR **shall** also provide guidelines on how the subdivision should be performed.	**14025 Clause 6.7.1c, 6.7.2c** **14027 Clause 6.5.3**	**PCR** • Draft PCR that lists processes and subdivision method	**2 Procurement**
	☐ 33	PCR Committee **shall** ensure the PCR specifies that where allocation by physical relationship is applied, the PCR **shall** specify the relevant underlying physical relationships to be considered and establish or refer to the relevant allocation rules.	**14025 Clause 6.7.1c, 6.7.2c** **14027 Clause 6.5.3**	**PCR** • Draft PCR that includes specification	**1 Transparency**
	☐ 34	PCR Committee **should** refer to relevant standards for defining allocation procedures for reuse and recycling, as well as waste handling, and for scenarios for treating waste generation during the product life cycle.	**14044 Clause 4.3.4** **21930 Clause 7.1.7.2.7**	**PCR** • Draft PCR that includes specification	**1 Transparency**
	☐ 35	PCR Committee **shall** refer to rules for and prioritize stepwise allocation for industrial processes that produce more than one product or deliver more than one service. For example, the refining of crude oil produces more than one different product, such as liquefied petroleum gas, gasoline, naphtha, diesel, asphalt, and others. PCR Committee **shall** refer to rules prohibiting system expansion as a method for avoiding allocation for construction products that may involve the production of co-products; rather, the PCR **shall** prescribe an ISO-compliant method of allocation, or an allocation procedure if multiple methods are allowed.	**14044 Clause 4.3.4.2** **21930 Clause 7.2.5**	**PCR** • Draft PCR including allocation method and procedure (where applicable)	**2 Procurement**
	End of life scenario				
	☐ 36	PCR Committee **shall** prescribe ISO-compliant rules for allocation between product systems (across the system boundary) and designate whether Module D may be optionally reported in the EPD for construction products and services. If so, the PCR **shall** prescribe detailed calculation rules for any quantitative metrics reported therein. *Note: Refer to the 'Allocating Burdens and Benefits of Materials Shared Across Product Systems' addendum.*	**21930 Clause 7.2.6**	**PCR:** • Draft PCR with allocation rules and calculation rules	**2 Procurement**
Life cycle impact assessment	☐ 37	PCR Committee **shall** include all minimally required, core indicators for ISO-compliant EPDs; specifically bulleting the indicator with: 1) the LCA characterization methodology, and 2) reference in parenthesis. Additionally, the PCR is encouraged to specify at least one LCIA method that includes characterization factors for calculating category indicator results for each impact category and each geographical region covered by the PCR.	**21930 Clause 9.5**	**PCR:** • Draft PCR including all items	**1 Transparency**
Interpretation	☐ 38	PCR Committee **shall** identify the steps for interpreting the results of the underlying LCA study.	**14044 Clause 4.5** **21930 Clause 9**	**PCR:** • Draft PCR including all items	**1 Transparency**
	☐ 39	PCR Committee **shall** ensure that the PCR communicates requirements (either qualitative or quantitative) and reference the methods and format used to report additional environmental information.	**21930 Clause 8.4** **14025 Clause 7.2.3, 7.2.4**	**PCR:** • Detailed specification on requirements and reference methods and format used to report additional environmental information.	**1 Transparency**
	☐ 40	PCR Committee **shall** ensure that the PCR lists assumptions and limitations associated with the underlying LCA results.	**14044 Clause 4.5.2.1**	**PCR:** • Draft PCR including all items	**1 Transparency**
	☐ 41	PCR Committee **shall** specify different types of uncertainties to be propagated in the underlying LCA study and is encouraged to ensure that the PCR describes procedures for reporting uncertainty of results.	**14044 Clause 4.4.4.2** **14025 6.7.1b**	**PCR:** • Draft PCR including all items	**1 Transparency**

PCR name Start date | PO name | PO contact name & email

EPD use case goal: 1, 2 or 3

EPD use levels are cumulative. Transparency is the baseline. To create a 'Data source' conformant PCR, all criteria in all checklists must be documented.

3 Data source
2 Procurement
1 Transparency

3. PCR Review Panel checklist Version 1.0, May 25, 2022 | ACLCA PCR Guidance 2022

Categories		#	Criteria	ISO reference	Supporting documentation	EPD use
Organizational	☐	1	The PCR Review Panel **shall** use this checklist to guide their process of reviewing the PCR.	**This guidance**	**PCR supporting documentation:** • Completed checklist	**1 Transparency**
	☐	2	PCR Review Panel members **shall** disclose any conflicts of interest using the conflict of interest form.	**14027 Clause 7.2** **14071**	**PCR supporting documentation:** • Review panel completed conflict of interest forms	**1 Transparency**
	☐	3	The PCR Review Panel **shall** meet with the Program Operator to discuss the PCR and how to perform their review. The PCR Review Panel **shall** investigate whether the PCR has been developed in accordance with relevant LCA-based claim standards, general program instructions, specifications, and guidelines, and ensure that it supports the creation of credible and consistent claims. The PCR Review Panel **shall** verify that the EPD template is consistent with the PCR guidelines. The PCR Review Panel **shall** generate and compile their comments in a review report. By the agreed upon date determined by the Program Operator, the review report **shall** be sent to the PCR Committee for consideration.	**14027 Clause 7, 7.3, 7.5** **14071**	**PCR supporting documentation:** • Dated review report	**1 Transparency**
	☐	4	The PCR Review Panel **shall** confirm that the PCR meets relevant EPD-related federal and/or state procurement requirements (e.g., Buy Clean Legislation) that are specifically referenced in the PCR.	**This guidance and relevant EPD-related federal and/or state procurement requirements**	**PCR supporting documentation:** • Reviewers' sign-off and/or list of any deviations from procurement requirements	**2 Procurement**
	☐	5	The PCR Review Panel **shall** verify conformance the Program Operator and PCR Committee checklists and the appropriate category of EPD use is identified.	**This guidance**	**PCR supporting documentation:** • Reviewers' sign-off below and/or list of any deviations from this guidance. All three completed checklists returned to the PO.	**1 Transparency**

Reviewer acceptance for EPD use case (1,2 or 3) Date | Reviewer names & email