

Program Operator Consortium

Aligning the industry.

Providing simpler, standardized and more useful PCR / LCA / EPD solutions



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Education Webinar Series

ISO 21930 – Implementing the 2017 version

October 10 | Tuesday, 2–3pm ET / 11am PT



Panelists:

- **Doug Mazeffa** Environmental Project Manager, **The Sherwin-Williams Company**
- **Ryan Daly** Marketing Manager, **NSF International** – *Moderator*

Program Operator Consortium

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What's happening in 2017: Education and engagement. [Create, attend, learn and join.](#)

We invite you to be a proponent of simplification and standardization delivering more useful and valuable environmental reporting tools to the marketplace. [Read the newsletter >](#)

Take three minutes to tell us what issues are most important to be working on. [Take the survey >](#)

Our goal is to provide simpler, standardized and more useful solutions.

The Consortium is your expert resource and advocate for creating standardized product category rules (PCRs), reviewing life cycle assessment (LCA) reports, and verifying and publishing your choice of Type III environmental declaration formats: EPDs and Sustainable Minds Transparency Reports™. [Join us >](#)

Program Operator Consortium goals:

To provide more useful environmental product transparency solutions and to reduce complexity in the marketplace by:

- **Standardizing** how LCA-based standards for reporting product environmental performance get created
- **Providing improved reports** to help decision-makers specify materials and products
- **Combining efforts** to improve access to and recognition of manufacturers' product transparency reports

2017 Education webinar series

- **May 3** | The Power of LCA in the Built Environment: Major Findings and Opportunities, from a Practitioner's Perspective
- **July 18** | New Benchmarking Guidance: Making EPDs Comparable
- **October 10** | **ISO 21930 – Implementing the 2017 version**

Next up: Final benchmarking guidance

Watch for the webinar announcement when the new version of the guidance is released.

Overview

ISO 21930 – Implementing the 2017 version

- Background
- General overview
- What this means to practitioners
- Specific similarities/differences to past version of ISO 21930
- Additional references
- Concerns
- Final thoughts

How the POC will use updated ISO 21930

Kim Lewis, Sustainable Minds, Transparency Report Program Coordinator

- Part A + ISO 21930 Compatibility appendix

Q&A

Background

- **ISO 21930:** Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services
 - One of the primary standards for PCR/LCA/EPD development for building material products.
- **ISO 21930: 2007 recently revised**
 - Formally published in July 2017
 - As such, future PCRs must use revised 21930 rules and legacy PCRs must update in their next revision cycle.
 - EPDs can still use the version of ISO stipulated in its reference PCR.
- **Represents a fairly substantial shift from the prior iteration in several key areas**

Practitioner use of legacy ISO 21930

Why did some prefer legacy ISO 21930 over EN 15804?

- Primary concern was that EN 15804 was geared towards Europe in terms of its assumptions, so ISO 21930 tended to be viewed by some as more appropriate for North America.
- Legacy ISO 21930 was more flexible in its reporting/structure which was a draw to certain industries.
- Legacy ISO 21930 required substantially less granular detail in the PCRs/EPDs.
- Some practitioners had concerns that US inventories couldn't meet the thresholds outlined in EN 15804.

Points to consider

As with all LCA standards, key sections are often open to interpretation.

- Dialogues with reviewers and program operators can help limit validation burdens.
- Expect a learning curve until all groups are more comfortable with the revised guidance.

Expect some PCRs and subsequent EPDs will be much more difficult to interpret by non-practitioners. Keep this in mind!

Increased difficulty in generating EPDs/PCRs, especially at first.

General overview of changes

New version much more aligned with EN 15804 than past.

- Includes adoption of EN 15804 module reporting.

Many more moving pieces and more detailed than before.

More guidance provided in areas such as functional/declared unit, system boundary, reference service life, allocation, comparability, average EPDs, and other critical areas of LCA.

Arguably more rigorous and specific.

- May present challenge to groups/industries not as familiar with LCAs/EPDS.

Substantially different EoL modeling (especially module D).

Can I reuse old LCA plans/processes/models?

Like many things in LCA, the answer is 'it depends'.

In many cases, models will just require reorganization.

- The closer your models were to 15804 or LCA 'best-practices' the less refinement should be needed to get into conformance.

However, need to consider different accounting practices and EoL assumptions.

- At a minimum expect to revise module organization and EoL calculations in many cases.

Cradle-to-gate PCRs will require much less revising than Cradle-to-grave.

Module reporting framework (Figure 2, Pg. 18)

- **Similarity to prior version: Substantially different.**
- Many more phases
- Line between maintenance, repair, replace, and refurbishment can be confusing
- Greatly adds to quantity of numbers in an EPD.

| Product stage | | | Construction stage | | Use stage | | | | | | | End of Life stage | | | | Benefits and loads beyond the system boundary |
|---------------------|-----------|---------------|-----------------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|---------------------------|-----------|------------------|----------|---|
| Raw material supply | Transport | Manufacturing | Transport to the site | Assembly | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | Deconstruction demolition | Transport | Waste processing | Disposal | Reuse-, Recovery-, Recycling-potential |
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |

Documentation & confidentiality (5.6 & 10.3)

Similarity to prior versions: Mostly identical.

Still required to submit LCA report and EPD acts as a summary of that information.

- EPD must meet requirements outlined by 21930.

Under no obligation to release full LCA report to any outside party.

- All confidential information protected.
- Can still provide additional supporting data to assist customer requests as necessary appropriate.

Declared vs. functional unit (7.1.2-3)

Similarizty to prior version: Strong, but much more detailed.

If you are comfortable with the historic distinctions, then you should be comfortable with the revisions.

Does imply that functional unit is required for any sort of comparison!

Reference service life (7.1.4)

Similarity to prior version: Some overlap, but more built-out.

References ISO 15686-1,-2,-7,-8

- However, does allow/prefer for manufacturers or industry to use accepted standards for their product category rather than rely on general guidance.

System boundary (7.1.5)

Similarity to prior version: Many notable changes.

- Focuses on 'polluter pays principle'
- Table 1 on pages 30-32 key to understanding
- Very specific guidance and encourages conservative approach to models
- Does not allow for aggregation of module indicators
 - May be able to do so in a summary as long as full results are included in the EPD.

Allocation & cut-off rules (7.1.8 & 7.2.5)

Similarity to prior version: Similar for cut-off, fairly different for allocation rules.

- Arguably weaker overall cut-off rules (5% per module), but has 1% cap on unit processes.
- Declaration of hazardous content is essentially the same as it asks for conformance to standards in the regional market.
 - No cut-off for hazardous materials.
 - Still unclear how hazardous or toxic is defined.
 - Important to define in PCR.
- Allocation – more embraced than in past version. Familiarize yourself with new guidance!
 - Frowns down upon using system expansion or economic allocation.

LCIA and metrics (7.3)

Similarity to prior version: Strong, more detailed.

- Carbon accounting – Much more guidance and specific rules for land use changes, carbonation, and delayed emissions.
- Defaults to TRACI for North America. CML for Europe.
- Much more complex metric reporting and some additional guidance provided.
 - However, guidance is still not clear enough and recommend utilizing ACLCA's forthcoming ISO 21930 resource metric guidance.

Creation of average EPDs (5.3)

Essentially new guidance to 21930.

- Only an option, not required
- Encourages 10% limit on impact categories for products under same heading
- Additional sensitivity analysis is a 'should'
- Average EPDs shall include, product group description, number of manufacturers, names of manufacturers, description of relative production representativeness, geographical scope, product range, use restrictions, information on how average was determined, information on key LCA parameters
- Still problematic for certain industries

Comparability (5.5)

Similarity to prior version: Somewhat, but additional guidance given.

- Requires functional unit
- Statements on limitations also required
- Any comparison must meet several requirements outlined in the standard
- However, still very vague in regards to uncertainties/actual limitations in comparing EPDs and this will likely lead to confusion in the marketplace as to what is 'better' or not.

Additional references

- ACLCA ISO 21930 Resource Metric Guidance Document – Under Development.
 - ACLCA considering authoring a guidance document for all of 21930 as well, but unclear if this will happen.
- Bibliography in ISO 21930.
- Existing PCRs/EPDs that reference the revised 21930 once available.
- Talk with your Program Operator!
- Unclear if EPA's PCR guidance will be updated to reflect changes in 21930.

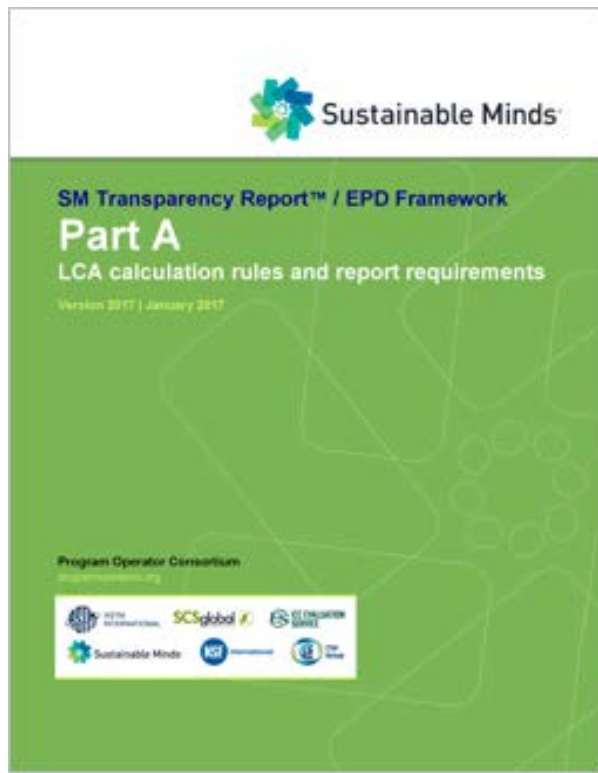
General concerns

- Given use of EPDs in programs such as LEED, shifting to the EN module framework greatly complicates the results and is confusing to non-LCA practitioners.
- Resource metric reporting is problematic at best and for areas such as waste of little value given LCI/LCA limitations.
- Some new language conflicts with existing environmental regulations in certain regions.
 - Individual PCRs should clarify definitions for its industry if necessary.

Final thoughts

- The revisions to ISO 21930 make it significantly more rigorous and provides much more guidance on PCRs/EPDs.
 - Arguably if you were already doing LCA best-practices, the overall changes to your models/LCAs may be fairly minor.
- There will undoubtedly be a learning curve when being assessed against this standard.
- Complexity of module reporting may confuse EPD users.
- Strong harmonization with EN 15804 should allow for better cross recognition between US and EU LCAs.

How the POC will use updated ISO 21930



SM Part A: LCA calculation rules and report requirements

- Part of the SM 2-part PCR framework
- Complies with ISO 14025 and the ISO 14040 series and builds on EN 15804
- Provides general LCA calculation rules *and EPD content requirements*

Part A compatibility appendices

- Standardize EPD content requirements independent of which PCR or technical standard is used.

Part A: PCR compatibility appendices enable standardization of content in EPDs

Identify all additional content required by the standard or existing PCR not required in Part A content requirements.

- When should a PCR or EPD be compliant with 21930? Not required for LEED or other green rating systems...
 - What's the reason for using 21930? Consider the audience: is the content useful, to whom?
- Ensure that all manufacturers are using the same LCA calculation rules and reporting the same content; just the formats are different.
 - EPDs or SM Transparency Reports

Part A 2017: PCR compatibility appendices



Version 2017 | January, 2017

Sustainable Minds Transparency Report™ / EPD Framework Part A: Compatibility appendices

Already includes a compatibility appendix for ISO 21930

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www.sustainableminds.com/files/transparency/SM_Part_A_Compatibility_appendices_v2017.pdf

Part A: PCR compatibility appendices

TR/EPD compatibility appendix

ISO 21930

ISO 21930 Sustainability in building construction – Environmental declaration of building products, 2007-10-01

Where this International Standard contains more specific requirements, it complements ISO 14025 for the EPD of building products.

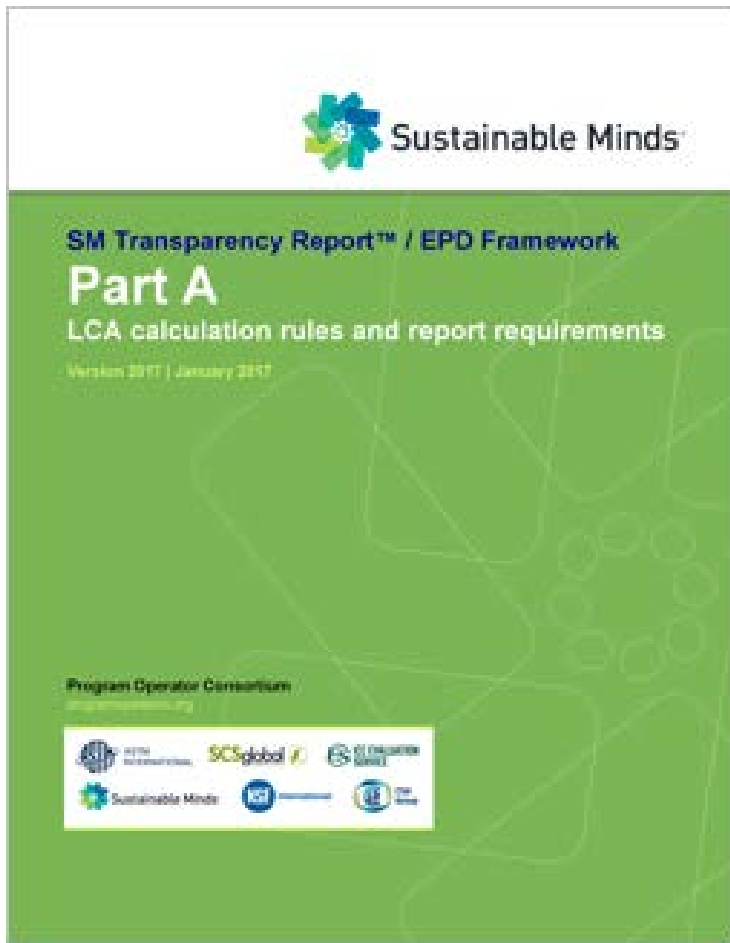
Use this Appendix to create a TR/EPD compliant with ISO 21930.

The right column indicates the additional content required and its location in a Transparency Report™.

| Content list | What a TR/EPD must communicate to be useful & be ISO 14025 Type III environmental declaration | Additional content requirements from ISO 21930 | | | | |
|--|---|--|--------|-----------------------------|--|------------------------------------|
| 1. Company & product Identification | | No additional content required. | | | | |
| 2. Issuing party and verification information | | No additional content required. | | | | |
| 3. LCA results | | <p>Requirement: Page 4, section 4.1:</p> <p>energy mega joule or kilowatt hour mass tonne (metric ton) or kilogram or gram surface square metres volume cubic metres</p> <table border="1"> <thead> <tr> <th>Action</th> <th>Add to TR^a page</th> </tr> </thead> <tbody> <tr> <td>Use those units for measurement of those metrics</td> <td>Anywhere LCA results are presented</td> </tr> </tbody> </table> <p>^aEach program operator can determine placement in its EPD template.</p> <p>Requirement: Page 18, section 8.2.2: The following environmental information shall be included in the EPD - depletion of non-renewable energy resources:</p> | Action | Add to TR ^a page | Use those units for measurement of those metrics | Anywhere LCA results are presented |
| Action | Add to TR ^a page | | | | | |
| Use those units for measurement of those metrics | Anywhere LCA results are presented | | | | | |

Inclusion of [A1], [A2], [A3] are a mandatory minimum and for 'cradle-to-gate'. 'Cradle-to-grave' studies need

What's happening for 2018



- **Annual review of Part A** allows for continual improvements to stay current and aligned with changes in standards, industry needs and customer needs based on learning and engagement.
- **Part A 2018 compatibility appendix will be updated to reflect ISO 21930:2017.**
- **Watch for public comment period end of 2017.**
We welcome all comments.

Q&A

We invite you to be a proponent of simplification and standardization delivering more useful and valuable environmental reporting tools to the marketplace.

Manufacturers:

Create a new, or renew an expiring PCR using the Consortium structured and aligned PCR development model.

Industry organizations: Start an industry-wide EPD project.

Program operators:

We welcome any active program operators to become members.

Thank you.

programoperators.org/contact/