NGA

thirsty THURSDAY

Quench your thirst for knowledge!

The Business Impact of EPDs

(and what's new with CA AB262)

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April 25, 2019

MARK YOUR CALENDAR FOR THESE OTHER UPCOMING EVENTS

Thirsty Thursday – Health & Wellness of Daylighting
May 16, 2019
webinar

Texas Glass Association
May 17, 2019
Waco, TX

Thirsty Thursday – Bird-Friendly Glazing (Standard Updates)
June 20, 2019
webinar

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Toledo, OH

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GlassBuild America
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Georgia World Congress Center | Atlanta, Georgia

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Outline

1. Definitions: PCR, LCA, EPD
2. The Business Value of EPDs: Market Drivers
3. California AB 262 update

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Life Cycle Assessment of Buildings

- A **Life Cycle Assessment (LCA)** is a mechanism for allowing architects and building professionals to understand the energy use and other environmental impact associated with all the phases of a building's life cycle:
  - procurement, construction, operation, and decommissioning.
- End Product is a wide-ranging environmental footprint of a building — including aspects such as energy use, global warming potential, habitat destruction, resource depletion, and toxic emissions.
- To inform a Building Life Cycle Assessment, LCAs of the products that make up the building need to provided to make that assessment.
  - Product-LCAs characterized by their respective Product Category Rules (PCR)
  - Product Category rules are developed early in the process

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Definitions

Product Category Rules (PCR)

"Set of specific rules, requirements, and guidelines for developing Type III environmental product declarations for one or more product categories" (ISO 14025)

Life Cycle Assessment (LCA) – products and/or whole building

"Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle" (ISO 14040)

Environmental Product Declaration (EPD)

"Providing quantified environmental data using predetermined parameters and, where relevant, additional environmental information" (ISO 14025)

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Current PCRs

1. GANA PCR for Flat Glass: UN CPC 3711 (2014)
   - Uncoated flat glass
2. Product Category Rule (PCR) for Processed Glass (2016)
   - Processed/coated glass, including heat-treated, insulating, and laminated glass used in building applications, used in both building envelope and installed interior building applications
3. Cradle to Gate Window Product Category Rule (2015)
   - Single vertical window products, including skylights, single opening windows, curtain walls, and storefronts. *It does not include any type of door, tubular daylighting devices or window component.*

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Current LCAs and EPDs

1. Individual window manufacturers
2. Individual flat glass manufacturers

No industry-wide LCA or EPD

Industry Wide Flat Glass EPD being worked on

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Drivers (not all inclusive)

1. Building Owners
2. Big Box retailers
3. State Building codes (CA AB262 and like states)

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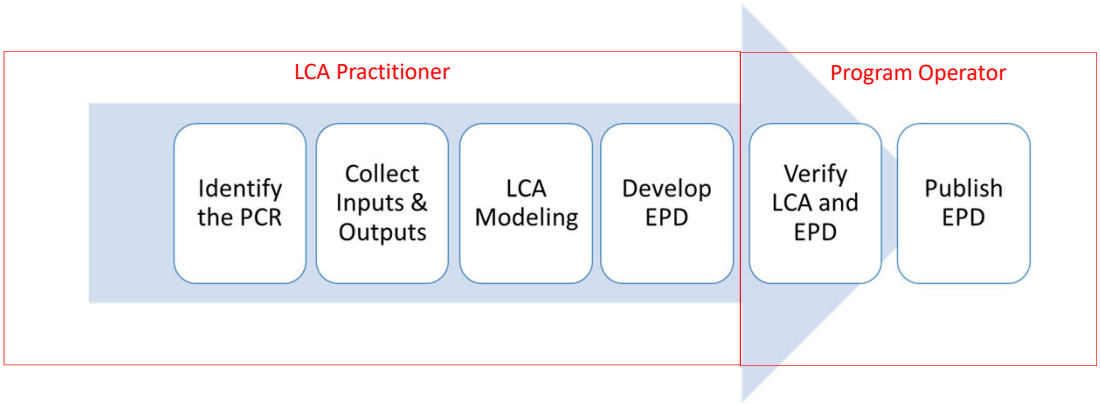
EPD Process



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Possible Paths Forward

Individual (Company) Approach

Company's Product-Specific LCA

- LCA that represents a specific manufacturer and their products
- Company will collect data with an LCA Practitioner, who will do the LCA and report manufacturer-specific data
- Approximate Cost
- Middle range. LCA Practitioner and critical review fees only
- PROS
  - Accurate LCA data to give to glaziers
  - Gain insight into environmental hotspots
- CONS
  - Costlier than collaborating on an industry-wide LCA
  - Absence of industry baseline

Company's Product-Specific EPD

- EPD that represents a specific manufacturer and their products
- Company will collect data with the LCA Practitioner, who will do the LCA and report manufacturer-specific data
- Approximate Cost
- High range. LCA Practitioner and annual Program Operator fees apply
- PROS
  - Competitive differentiation
  - 4+ months
- CONS
  - Costlier than collaborating on an industry-wide LCA or EPD
  - Absence of industry baseline

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Possible Paths Forward

Industry-wide Approach

Industry-wide LCA

- A single LCA that represents participating member companies
- Glaziers, as the last step of the production process, may be asked for EPDs. Glass LCA will feed into their LCAs.
- LCA Practitioner manages data collection from individual companies, and aggregates data to report the average
- Approximate Cost
- Low range per manufacturer. LCA Practitioner and critical review fees apply.
- PROS
  - Cost-effective - leverages industry economy of scale
  - Makes an LCA affordable for smaller manufacturers
  - Establishes industry-baseline for glaziers to use
  - Demonstrates leadership and allows for expanded marketability
  - Glaziers can use actual North American glass LCA instead of global proxy data
- CONS
  - No competitive differentiation
  - 8+ months to produce

Industry-wide EPD

- A single EPD that represents participating member companies
- LCA Practitioner manages data collection from individual companies and aggregates data to report the average. EPD is verified by a third party.
- Approximate cost
- Middle range per manufacturer. LCA Practitioner and annual Program Operator fees apply.
- PROS
  - Cost-effective
  - Establishes industry-baseline for glaziers
  - Establishes industry-baseline for contributing manufacturers to show improvement
  - Demonstrates leadership and expanded marketability (as an association)
  - Get ahead of others setting a baseline for you
- CONS
  - No competitive differentiation
  - More costly than LCA alone
  - 9+ months to produce

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Possible Paths Forward

No Approach

'Do Nothing' Scenario

- PROS
  - Save money by waiting to see whether market demands LCAs or EPDs.
- CONS
  - If industry-wide average is not done by the industry, others will develop an industry average for you.
  - By the time you decide to pursue an EPD, it will be at least 12 months before you have one published.
  - If the industry decides to do nothing, individual members will bear the cost of doing the work on their own. This could be a barrier for smaller companies

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Industry-wide LCA/EPD – Cost Drivers

It Depends on…

- How many member companies will participate?
- How many facilities will we need to collect data from?
- What is the deliverable?
  - LCA only?
  - LCA and EPD?

Approximate Cost

Low range per manufacturer and can be credited toward future work

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Processed Glass EPD

Processed Glass Scoping Survey

https://www.surveymonkey.com/r/ProcessedGlass2019

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California AB262 - Background

Requires contractors bidding on **state infrastructure and construction project** to disclose the global warming potential (GWP) for eligible materials (e.g. flat glass) in an *Environmental Product Declaration* (EPD)

The California Department of General Services (DGS) will set a maximum allowable GWP based on an *industry-average EPD* for the material.

The DGS will adjust the GWP downward over time

DGS will require manufacturers to submit product-specific EPDs reflecting the GWP results from *each manufacturing facility*

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California AB262 - Background

NGA Comments to DGS

Not enough time to produce EPDs

Facility-specific results do not represent how products go to market

Legislation will result in excluding products from the CA marketplace

The calculation methodology for maximum allowable GWP is flawed

Not enough outreach from DGS soliciting comments from external stakeholders

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California AB262 - Background

DGS Response to NGA

The Buy Clean California Act timelines have been revised by AB 1817.

DGS interprets a "facility-specific EPD" as a product-specific EPD originating from a single facility. Individual facility compliance cannot be verified through submission of multi-facility or industry-wide EPDs

DGS has made note that AB262's requirement for facility-specific EPDs could result in excluding products from the CA marketplace, and will further investigate the issue

DGS will plan future outreach to external stakeholders

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California AB262 – Key Dates

January 1, 2019 *– Awarding authorities will* ***request*** *submission of EPDs*

January 1, 2020 *– Awarding authorities will* ***require*** *submission of EPDs*

January 1, 2021 *– DGS will publish the maximum acceptable GWP for eligible materials.*

July 1, 2021 *– Awarding authorities will gauge GWP compliance of eligible materials with EPDs.*

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Summary

- Fabricators, suppliers and manufacturers will be asked to make submission towards an LCA/EPD
- Watch your inbox for an industry-wide survey.
  - Please participate

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Helpful Resources and References

1. A Guide to Building Life Cycle Assessment in Practice, American Institute of Architects, 2016. http://content.aia.org/sites/default/files/2016-04/Building-Life-Cycle-Assessment-Guide.pdf
2. Carbon Leadership Forum, University of Washington, 2016. http://www.carbonleadershipforum.org/lca-practice-guide/
3. Green Building Certification Institute, 2017. http://www.gbci.org/whole-building-life-cycle-assessment-through-leed-v4

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Thirsty Thursday

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