

HB21-1303: Buy Clean Colorado Act

Office of the State Architect
Energy & Environment Program

Industry Stakeholder Meeting #1 – Fall 2022

Presented By: *Office of the State Architect* - Bailey Vigil, EIT II



COLORADO

Office of the State Architect

Department of Personnel & Administration

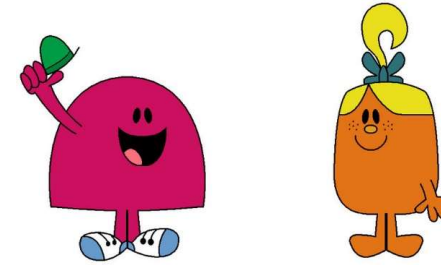
Welcome!



- This meeting is being recorded
- Submit questions using Q&A function
- Time for questions at the end
 - During question time, please raise your hand and we will unmute you
- For CC: Live Transcript → Enable Auto-Transcription
- A follow-up email will be sent out to participants with the slides and a survey



Introductions



Cheri Gerou – State Architect

Rod Vanderwall – Manager of Energy Programs

Paula Greenwood – Administrative Assistant

Bailey Vigil – Buildings GHG Emissions Analyst



Presentation Agenda

Background

- High-Level View of HB21-1303
- Communications
- Important Definitions

Responsibilities

- Office of the State Architect (OSA)
- Colorado Department of Transportation (CDOT)
- Agencies and Institutions of Higher Education
- Consultants
- Contractors
- Transportation-Related Emissions Reporting

Current Progress and Future Outlooks

- Policy
- Stance on EPDs
- Material Subcategories

Feedback Request

- Fill out the survey or schedule a time to meet with me!
- Questions?

High Level View of HB21-1303



HOUSE BILL 21-1303

Colorado Revised Statutes (C.R.S.):

24-92-117

OSA

Maximum global warming potentials for materials used in eligible projects – buildings – projects that are not roads, highways, or bridges...

24-92-118

CDOT

Maximum global warming potential for materials used in public projects – road – highway – bridge projects...



High Level View of HB21-1303

HB21-1303
Signed:
07/06/2021

OSA
Association
Meeting:
08/29/2022

OSA
Submission
Processes
Released:
07/01/2023

CDOT Policy
takes effect:
01/01/2025

07/01/2022
CDOT
Requires EPD
Submission:

- OSA Policy
released

11/22-4/23
OSA
Educational
/Training
Events for
State
Delegates

01/01/2024
OSA Policy and
GWP Limits
take effect:

- OSA
Requires
EPD
Submission

01/01/2026
First OSA
Material
Subcategory
Review



Communications

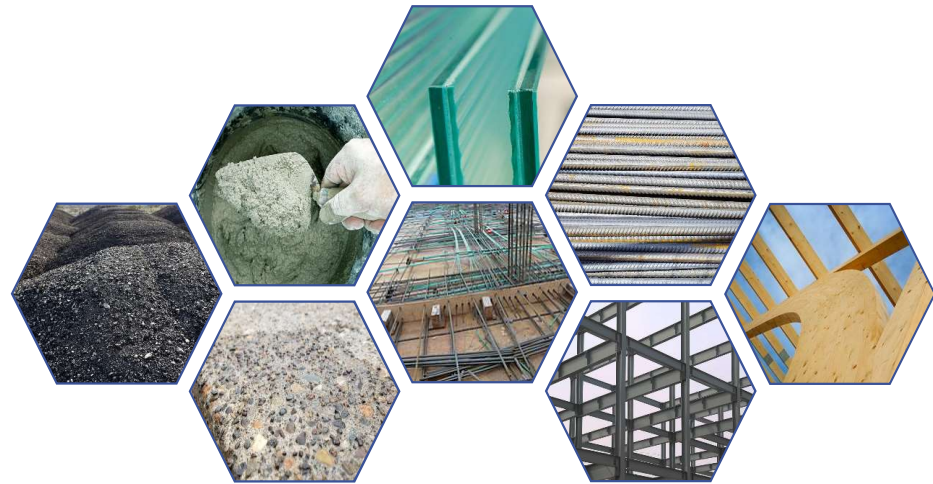
Due to the statutory authority of HB21-1303 and the emergence and development of this requirement, OSA will be involved with the OSA designated delegate via communications on all matters through the design and construction of projects.

It is the delegate's responsibility to work with OSA to ensure compliance with the program through all phases of a construction project. This is to ensure that all waivers and modifications are handled within the same parameters.



Important Definitions

- “**Eligible materials**” means materials used in the construction of a public project, including:
 - Asphalt and asphalt mixtures
 - Cement and concrete mixtures
 - Glass
 - Post-tension steel
 - Reinforcing steel
 - Structural steel
 - Wood structural elements



Important Definitions

- **“Eligible project”** means a public project as defined in C.R.S. 24-92-102, for which an agency of government issues a solicitation on or after January 1, 2024; except that “eligible project” does not include any maintenance program for the upkeep of a public project or any road, highway, or bridge project.
- **“Embodied Carbon”** is reported as global warming potential (GWP) and includes greenhouse gas emissions arising from the production, construction, use, and end-of-life of products or systems used in the construction of buildings, roads, and other infrastructure.



Important Definitions

- **“Global warming potential” or “GWP”** is a metric describing the potential climate change impact of a product or process as measured by an LCA, reported in an EPD.
- **“Industry-Wide Environmental Product Declaration” or “IW-EPD”** means an EPD that meets the representativeness criteria and is released by multiple manufacturers to publish the production-weighted average footprint of the entire industry.



Important Definitions

- “**Stages A1-A3**” refers to the life cycle stages which define an EPD from cradle-to-gate and considers emissions from the raw materials extraction and processing (A1), transport to the manufacturer (A2), and manufacturing of building materials (A3).
- “**Product category rule**” or “**PCR**” means a set of specific rules, requirements, and guidelines necessary for developing Type III environmental declarations for one or more product categories.



Important Definitions

“Environmental Product Declaration” or **“EPD”** or **“Type III EPD”** means a third-party verified document that summarizes the life cycle assessment of a single product and publicly discloses its environmental impacts. EPDs enable comparisons between products serving the same function. For an EPD to be deemed approved:

- A. The EPD must be a current product-specific, Type III EPD.
- B. The EPD must reference all ISO Standards - ISO 14025:2006, ISO 14040:2006, ISO 14044:2006, and ISO 21930:2017 or EN 15804.
- C. The EPD must align with the applicable product category rule requirements.



RESPONSIBILITIES

Responsibilities – Office of the State Architect (OSA)

- A. Establish by policy a maximum acceptable GWP limit for each category of eligible materials
- B. GWP limit shall be in accordance with criteria in an EPD and may include transportation-related emissions
- C. OSA may establish subcategories within each eligible material category with distinct maximum GWP limits
- D. By 2026, and each 4 years after, OSA shall review the GWP for each eligible material and may adjust the number to reflect industry conditions



Responsibilities – Department of Transportation

- CDOT is already requiring EPD submissions for their projects
- No limits established

Visit their website to learn more!

<https://www.codot.gov/business/designsupport/materials-and-geotechnical/epd>



Responsibilities – Agencies and IHE

Agencies and Institutions of Higher Education (IHE) shall:

- Build a budget that includes the cost of all eligible materials
- Update their design standards with materials with EPDs
- May specify own GWP limits for the material categories if they are lower than OSA's

EPD Process

For any solicitation beginning on or after January 1, 2024, agencies/IHE shall:

- Require consultants to specify EPDs for all eligible materials considered in the design
- Require contractors to submit EPDs for all eligible materials prior to site installation
- Submit EPDs to the OSA as part of the L-1 Code Compliance Documentation



Responsibilities - Consultants

Consultants are engineers, architects, or sustainable design consultants which make up the design team (internal or external).

For solicitations beginning on or after January 1, 2024, consultants shall:

- Prioritize products with EPDs for the design
- Specify an EPD for each eligible material considered in the design
- Verify that the GWP value included in each EPD is less than or equal to the maximum acceptable GWP limits established by OSA



Responsibilities - Contractors

For solicitations beginning on or after January 1, 2024, contractors shall:

- Obtain EPDs for all eligible materials procured for a public project
- Submit compliant EPDs to the agency/IHE delegate as part of the closeout submittal documentation as listed on the Pre-Acceptance Checklist (SBP-05)
- Report information related to the transportation of eligible materials for products sourced over 100 miles from the project site



Transportation-Related Emissions Reporting

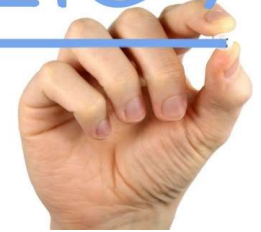
- Beginning January 1, 2024, for **products sourced** (extracted, manufactured, purchased) **over 100 miles** (160 km) outside of the project site contractors shall record and report information relating to the transportation of eligible materials.
- Contractors shall record the **weight** of the cargo (lbs. or kg), the **method used for transporting eligible materials**, and the **total distance traveled** (miles or km) or the zip codes of the distributor and project site.
- OSA will conduct mathematical conversions to determine the resulting GWP



Current Progress and Future Outlooks

OSA Policy

POLICY



- Policy posted to OSA website on July 1, 2022

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Energy & Environment

Energy Performance Contracts

New Construction & Major Renovations

Buy Clean Colorado Act

COLORADO
Office of the State Architect
Department of Personnel & Administration

Home State Architect State Buildings Real Estate **Energy & Environment** Planning Contact

Office of the State Architect

<https://osa.colorado.gov/>



Stance on EPDs

Average GWPs determined following CLF methodologies:

Requires:

- 1 IW-EPD
- 20+ Product EPDs
- Problem:
 - Few products have product EPDs
 - Even fewer products have IW-EPDs



Material Subcategories Roadmap



- Establish policy

- Determine first round of material subcategories based on available EPDs

- Determine first round of industry average GWP values

- Request industry feedback regarding material subcategories

- Establish meaningful and accurate material subcategories



Material Subcategories

Material Category	Asphalt and asphalt mixtures	Cement and Concrete Mixtures	Glass	Post-Tension Steel	Reinforcing Steel	Structural Steel	Wood Structural Elements
Material Subcategories		1. ReadyMix Concrete (kg CO2e per cubic meter) <ul style="list-style-type: none"> • 0-2500 psi • 2501-3000 psi • 3001-4000 psi • 4001-5000 psi • 5001-6000 psi • 6001-8000 psi • Lightweight 0-3000 psi • Lightweight 3001-4000 psi • Lightweight 4001-5000 psi 	1. Flat Glass		1. Reinforcement steel bar (rebar)	1. Hot-rolled Structural Sections 2. Plate Steel 3. Hollow Structural Sections	1. Wood-I joists 2. Wood Framing/Softwood Lumber 3. OSB Sheathing 4. Laminated Strand Lumber 5. Laminated Veneer Lumber 6. Glued Laminated timber



Feedback Request

Industry Feedback Request

Colorado is the 2nd State to impose an embodied carbon policy.

General Survey Topics

- Eligible Material Subcategories
- EPD development
- Embodied carbon knowledge

We want to hear Trade and Manufacturer Association feedback!



Industry Feedback Request

Fill out the survey and/or request a meeting with OSA!

- Surveys will be sent out following this meeting
- Meeting requests answered within 2 business days
- Please complete by 09/26/2022



Section 1 of 8

BCCO Act: Association Feedback Request

Please fill out the following sections with as much information as you can. All feedback will be considered for inclusion to improve OSA's BCCO Act requirements as well as provide OSA with pertinent information about eligible materials and their Environmental Product Declarations (EPDs).

NOTE: If you choose to meet with an OSA staff member to provide your feedback, you can expect to see a scheduling email arrive in your inbox within 2 business days.



Questions?



Embodied carbon will be responsible for almost half of total new construction emissions between now and 2050.²

Contact Us

EMAIL

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PHONE

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