



Caltrans EPD Efforts



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Agenda


- Brief Introduction: Environmental Product Declarations
- Buy Clean California Act + Caltrans Implementation
 - Project/material criteria
 - Contractors Responsibilities/DIME
 - Authorized Materials List
- Pilot Projects (Concrete, Aggregate, Asphalt)
 - Lessons Learned
- FHWA Climate Challenge
- Takeaways



Environmental Product Declarations (EPDs)

“Type III EPDs present quantified environmental information on the life cycle of a product to enable comparisons between products fulfilling the same function.”

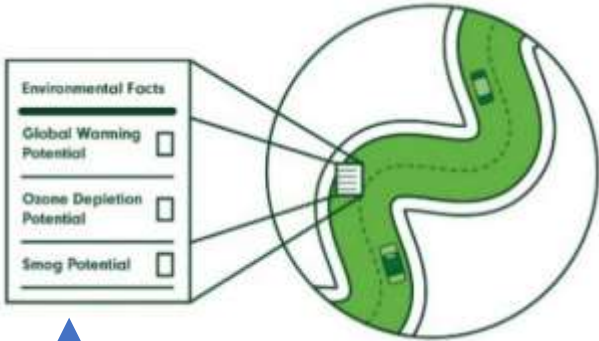
*International Organization of Standards
(ISO) 14025-2006v*



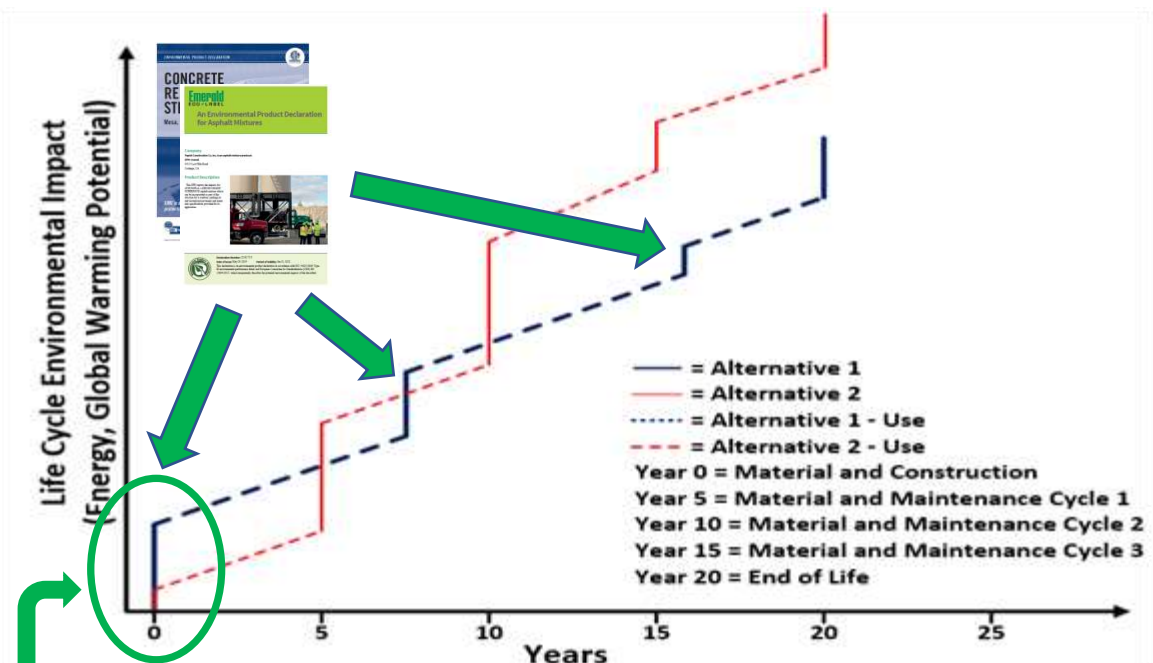
Environmental Facts	
Functional unit: 1 metric ton of structural steel	
Primary Energy Demand (MJ)	4.6×10^5
Non-renewable (MJ)	3.3×10^5
Renewable (MJ)	1.3×10^5
Global Warming Potential (kgCO ₂ e)	79
Acidification Potential (kgSO ₂ e)	0.23
Eutrophication Potential (kgN-e)	0.012
Ozone Depletion Potential (kgCFC11-e)	7.3×10^{-6}
Smog Potential (kgCO-e)	4.4
Boundaries: Cradle-to-Gate Company: XYZ Asphalt GAP: 10%	



Where do EPDs fit in?



Supplier EPDs for materials



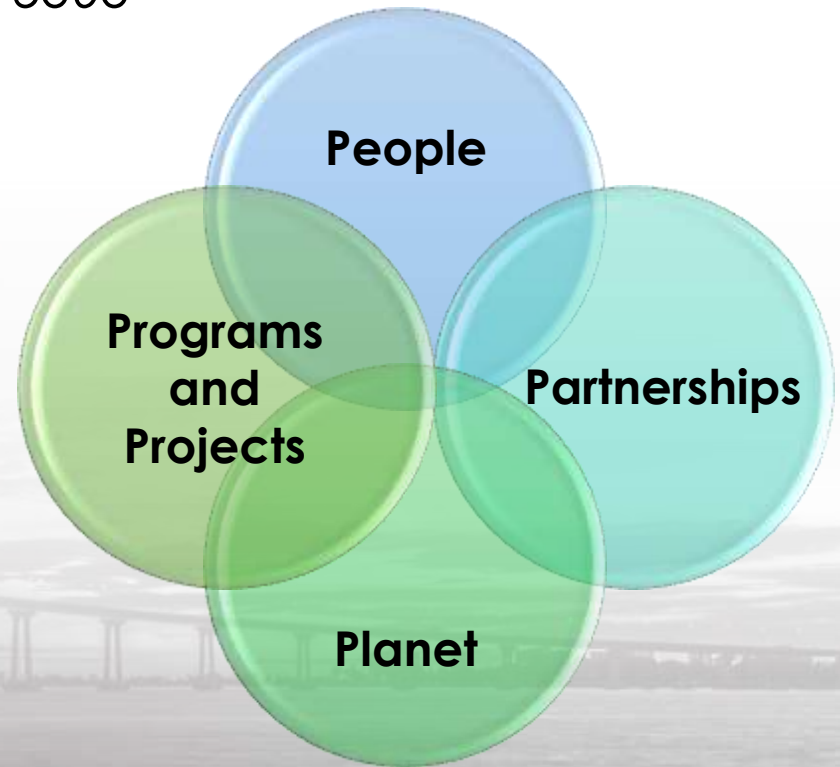
Product Stage			Construction Stage		Use Stage					End-of-Life Stage				Benefits & Loads
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	D
Raw materials supply	Transport	Manufacturing	Transport	Installation	Use Stage	Maintenance	Repair	Replacement	Refurbishment	De-construction	Transport	Waste Processing	Disposal	Reuse, recovery, recycling potential





EPD Collection

- Department Goals and Policy
- Legislation: Buy Clean California Act (BCCA)
 - *Public Contract Code 3500 - 3505*
- Data Collection



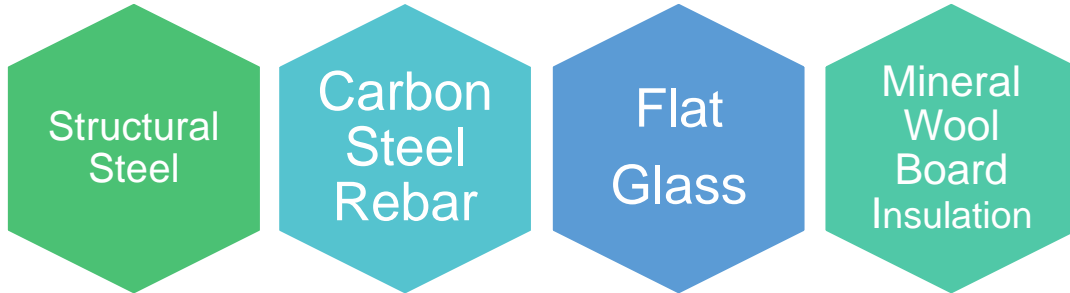


Buy Clean California Act

(Public Contract Code § 3500 et seq.)

AB 262 approved October 15, 2017

Amended by AB 137 approved July, 2021



Phase	Timeline (as of Bid Opening)	Requirement
Phase I	Prior to Dec 1, 2019	Request existing EPDs
Phase II	Dec 1, 2019 – May 31, 2021	Require EPDs
BCCA Legislative Report	Jan 1, 2022	DGS establishes GWP limits
Phase III	Contracts with 6-1.06 in Special Provisions (March 2022)	Require EPDs with materials within GWP limits prior to installation

We are Here





EPD Requirements for BCCA Compliance

- Facility-specific manufacturer declaration
- Developed according to the guidelines of the applicable product category rule (PCR) as identified by DGS
- Independently verified in accordance with ISO 14025
- Represented as an eligible material
- Valid (not expired)





Caltrans Requirements

Implementation thresholds per project defined in Contract Special Provisions

Item	Implementation Threshold
Total bid	Over \$1 million
Original working days	175 or more
Carbon Steel Rebar (excludes epoxy coated and galvanized rebar)	20,000 lbs. or more (per mill)
Structural steel	5,000 lbs. or more (per mill)
Flat glass	2,000 ft ² or more (per manufacturer)
Mineral wool board insulation	4,000 ft ² or more (per manufacturer)



Link to SSPs: <https://dot.ca.gov/-/media/dot-media/programs/engineering/documents/mets/6106a022522a11y.pdf>





Authorized Vendors List

- Simpler implementation for Contractors and REs
- Actively soliciting vendors
- Multiple vendors have already submitted their EPDs!

Authorized Materials Lists (AML)

Authorized Material Lists are specified in Caltrans specifications and are primarily a proactive measure used in conjunction with other acceptance activities as outlined in Department standards and guidance documents. The materials included on these lists are authorized for use on Caltrans construction projects. Use of AMLs alone without other corresponding measures may not assure compliance to state and federal regulations. Actual performance of the material will be the responsibility of the vendor and the user.

For products that meet established AML authorization criteria, please submit your request using the [Authorized Material List Submittal Form TL 8902](#).

For AMLs with authorization criteria that are under development, please submit your request for addition to the respective AML using the [New Product Evaluation Submittal Form TL 8901](#).

AML	Authorization Criteria	Reference Specifications
Accessible Pedestrian Signals	Authorization Requirements for Accessible Pedestrian Signals (PDF)	803 96-1.02T
Admixtures for Use in Concrete <ul style="list-style-type: none">• Air-Entraining Admixtures for Concrete (ASTM C495)• Chemical Admixtures for Concrete (ASTM C494)	Authorization Requirements for Concrete Admixtures (PDF)	90-L1004H 90-L 025(1) 90-L 025(2) 03P 91-1.02B
Aniseisic Threading Compounds (PDF)	Authorization Requirements for Aniseisic Threading Compounds (PDF)	75-2.02B
Asphalt Concrete Pavement (Flexible Pavement) Crack Treatment Material (PDF)	Authorization Requirements for Asphalt Concrete Pavement (Flexible Pavement) Crack Treatment Material (PDF)	37-4
Avalanche Traffic Signs (PDF)	Authorization Requirements for Avalanche Traffic Signs (PDF)	03P 94-4.02





Contractor's Role

Material Name	Quantity	Manufacturer	Product Name	Product Number
...
...

- Submit accurate and complete CEM 3101 Notice of Materials to be Used
- Register on **DIME**
- For carbon steel rebar, ensure source mill is on Authorized Materials List¹
- For structural steel, flat glass, or mineral wool board insulation:
 - Submit EPD data, at least 15 days prior to installation, to:
 - Engineer (PDF)
 - DIME² (data only)
 - Ensure EPD is product and mill specific
 - Maximum acceptable GWP threshold compliant
- Submit quantity data on DIME within 5 business days of shipment receipt at the project site

¹Authorized Materials List for EPDs URL: <https://mets.dot.ca.gov/aml/EnvironmentalProductDeclarations.php>

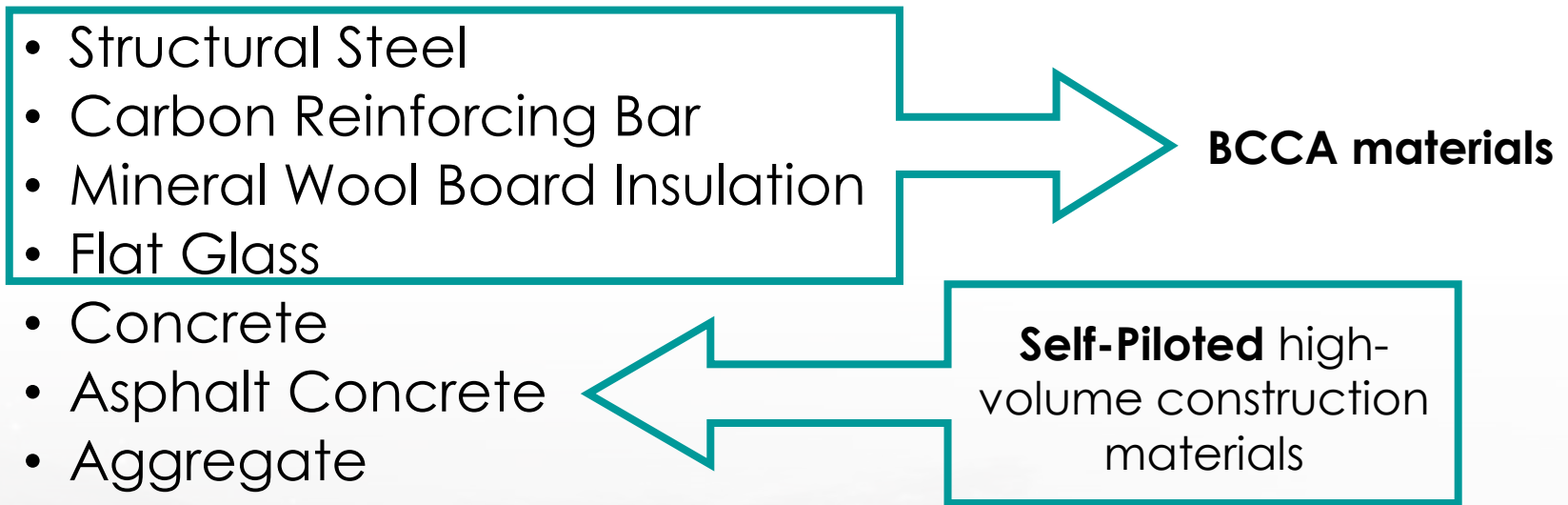
²DIME URL: <https://dime.dot.ca.gov/>





Pilot Projects

Launched in late 2019 to require EPDs on select projects across **seven material categories**:

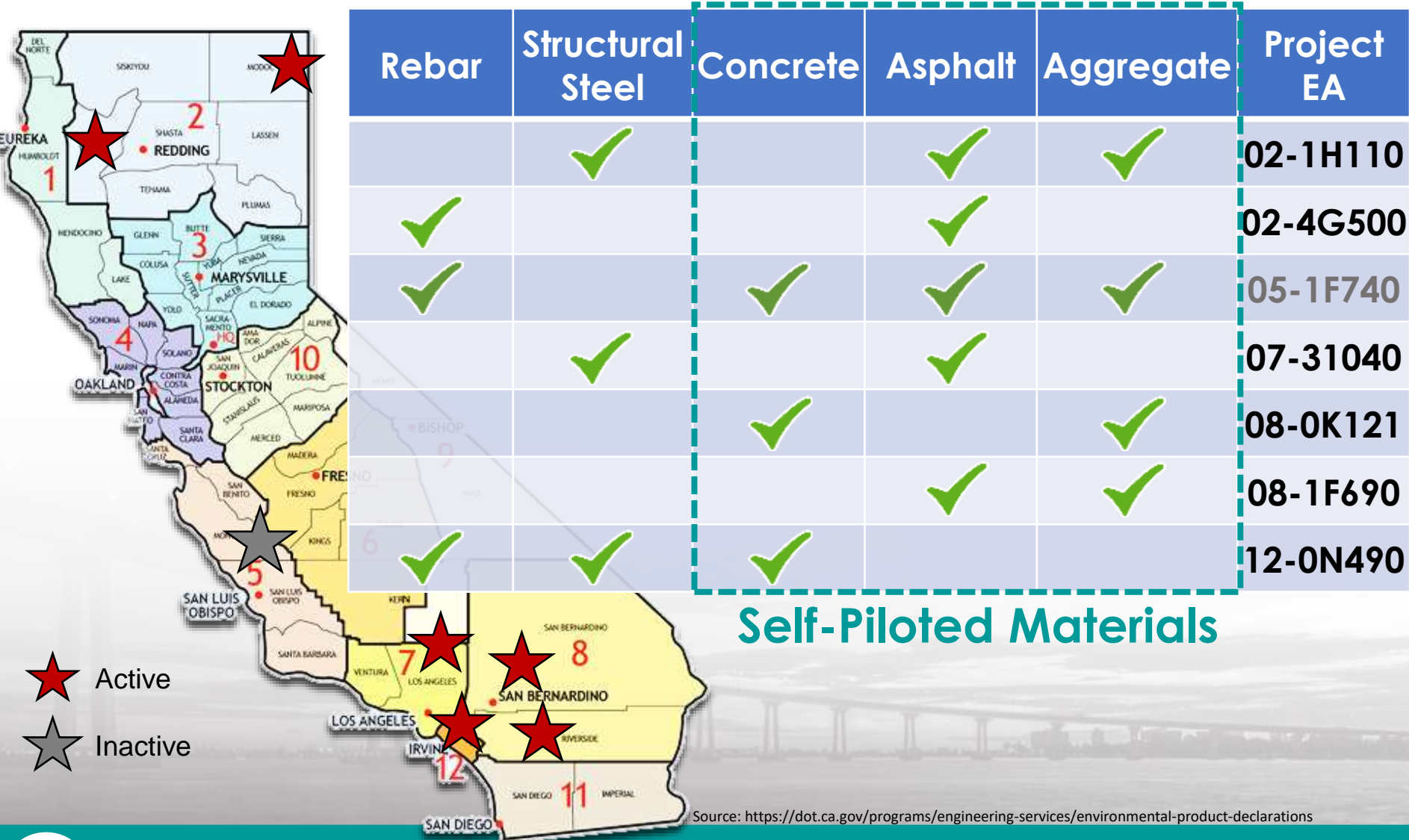


“It is likely that other materials will be added [to BCCA] in the future”

California Department of General Services



Pilot Projects: 2019 – Present



Source: <https://dot.ca.gov/programs/engineering-services/environmental-product-declarations>



Lessons Learned So Far

Data Collection: All EPDs are not created equal

Expiration of PCRs: There is no government involvement in PCR development. When a PCR expires without replacement, what does this mean to the bidding process?

Roles and Responsibilities: Contractor, Subcontractors, Suppliers. Communication is key.

Compliance: Verify materials and quantities represented by the EPDs (matching mix designs, descriptions, bid items, etc.).

Constituent Material: When EPDs are generated for mixes where additives make up a significant portion of the GWP, the chemical additive manufacturers should provide GWP information.





FHWA Climate Challenge

- Support the Concrete and Asphalt plants in producing EPDs
- Collect as many EPD's as possible from regionally diverse areas throughout the state
- Partners:
 - Department of General Services (BCCA Owners)
 - Industry Associations
 - EPD Developers





Takeaways

- Assign a point person
- Learn about available EPD Tools (ex. NAPA Eco-Label EPD Program)
- Be on the look out for Grant \$\$
- Get ahead of the game



Questions?

For more information:

Visit the Caltrans EPD website:

<https://dot.ca.gov/programs/engineering-services/environmental-product-declarations>

Or contact Dominika Ercolini:

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