



Stage 1 Business Analysis

California Department of Technology, SIMM 19A.3 (Ver. 3.0.8, 02/01/2022)

1.1 General Information

1. **Agency or State entity Name:** **3900 - Air Resources Board, State**

If Agency/State entity is not in the list, enter here with the [organization code](#).

[Click or tap here to enter text.](#)

2. **Proposal Name and Acronym:** **Building Embodied Carbon Reporting Tool (BECRT)**

3. **Proposal Description:** (Provide a brief description of your proposal in 500 characters or less.)

CARB proposes to design and build a tracking and reporting system for building embodied carbon where regulated entities can report the mandated declaration of carbon intensity relating to construction materials and ensure the goals outlined in Assembly Bill 2446. There is no existing system that can be adapted to serve this purpose. The proposed system will facilitate and fulfill the Bill's requirements for regulated entities and CARB.

4. **Proposed Project Execution Start Date:** **7/1/2023**

5. **S1BA Version Number:** **Version 1**

1.2 Submittal Information

1. Contact Information

Contact Name: **Annalisa Schilla**

Contact Email: **annalisa.schilla@arb.ca.gov**

Contact Phone: **(279) 208-7204**

2. **Submission Type:** **New Submission**

If Withdraw, select Reason: [Choose an item.](#)

If Other, specify reason here: [Click or tap here to enter text.](#)

Sections Changed, if this is a Submission Update: (List all sections changed.)

[Click or tap here to enter text.](#)

Summary of Changes: (Summarize updates made.)

[Click or tap here to enter text.](#)

3. Attach [Project Approval Executive Transmittal](#) to your email submission.
4. Attach [Stage 1 Project Reportability Assessment](#) to your email submission.

1.3 Business Sponsorship

1. Executive Champion (Sponsor)

Title: [Division Chief](#)

Name: [Jennifer Gress](#)

Business Program Area: [Sustainable Transportation and Community Division](#)

2. Business Owner

Title: [Air Resources Supervisor II](#)

Name: [Annalisa Schilla](#)

Business Program Area: [STCD- Community Action Branch](#)

3. Product Owner

Title: [Air Resources Engineer](#)

Name: [Chi-Chung Tsao](#)

Business Program Area: [STCD](#)

TIP: Copy and paste or click the + button in the lower right corner on any section to add additional Executive Champions, Business Owners, or Product Owners with their related Business Program Areas as needed.

1.4 Stakeholder Assessment

The Stakeholder Assessment is designed to give the project team an overview of communication channels that the state entity needs to manage throughout the project. More stakeholders may result in increased complexity to a project.

1. Indicate which of the following are interested in this proposal and/or the outcome of the project. (Select 'Yes' or 'No' for each.)

State Entity Only: **Yes**

Other Departments/State Entities: **Yes**

Public: **Yes**

Federal Entities: **No**

Governor's Office: **No**

Legislature: **No**

Media: **No**

Local Entities: **No**

Special Interest Groups: **Yes**

Other: **No**

2. Describe how each group marked 'Yes' will be involved in the planning process.

CARB will first consult with California Building Standards Commission, the Department of Housing and Community Development, and the State Energy Resources Conservation and Development Commission to establish a framework for measuring and reducing the carbon intensity of construction materials including a data tracking and reporting mechanism. Based on the framework, CARB will lead the development of the reporting system including the determination of the overall architecture needs, consulting on system design, regular system maintenance, and, through a public process, working with the entities (manufacturers of construction materials and builders) that will be required to report data to CARB to ensure the system is feasible to use. CARB will be impacted from a resource (time/staff/budget) perspective.

1.5 Business Program

3. Business Program Name: Building Embodied Carbon Program

4. Program Background and Context: (Provide a brief overview of the entity's business program(s) current operations.)

California has committed achieving carbon neutrality no later than 2045. Since buildings are a large source of GHG emissions, building decarbonization is a high priority in California state policy, California has made (and continues to make) considerable progress in reducing GHG emissions from buildings through energy efficiency, clean renewable energy, and building electrification. As a result, embodied carbon in the materials used to construct buildings represents an increasingly large share of remaining building-related emissions, accounting for up to 50 percent of total GHG emissions. Embodied carbon refers to the lifecycle GHG emissions resulting from the extraction, manufacturing, transportation, installation, maintenance, and disposal of goods, including building material goods; AB 2446 focuses primarily on building materials at the materials production stage. Tackling embodied carbon in new construction immediately is critical for ensuring that California can achieve its housing and climate goals,

because housing production in California is anticipated to ramp up significantly over the next 10 years.

The goal of AB 2446 is to reduce the GHG emissions associated with the construction of buildings. The legislation significantly expands CARB's responsibilities related to measuring and reducing the embodied carbon of building materials and building construction, and requires CARB to undertake a variety of new tasks including regulating entities that CARB does not have a history of regulating (builders and manufacturers of building materials).

CARB staff will need to establish a baseline carbon intensity based on data reported in 2026 by building materials manufacturers and developers of covered construction projects. In consultation with relevant stakeholders, including, but not limited to, the California Building Standards Commission, the Department of Housing and Community Development, and the State Energy Resources Conservation and Development Commission, CARB will need to establish a framework for measuring and reducing the carbon intensity of construction materials. The framework must include a comprehensive strategy to meet a legislatively established GHG reduction target of 40 percent by the end of 2035, and an interim GHG reduction target of 20 percent by the end of 2030. In order to be successful, CARB staff will need to quickly develop expertise in quantification of the embodied carbon of a range of building materials, and will also need to develop significant expertise in methods to evaluate the costs and feasibility of meeting these targets, identify strategies to reduce costs and overcome other barriers to reducing the carbon intensity of building materials, and ensure that the low-carbon intensity materials do not have other impacts (such as potential to harm health or safety of materials installers or building occupants, or any claims that the materials are defective).

CARB will also need to develop, host, and maintain a reporting system. Because the carbon intensity of building materials is a completely new program area for CARB, staff will need to conduct extensive technical analyses, in addition to undertaking robust foundation-building with affected entities, including developing new relationships and working with builders and building materials manufacturers to ensure that staff have all relevant data to conduct technical analyses and that the resulting regulatory requirements and reporting system are designed to be as feasible and easy-to-use as possible. Contract funds will be required to develop, host, and maintain the reporting system, fill technical gaps during regulation development, and support development and maintenance of the technical advisory committee. The scale of this work effort is substantial.

5. How will this proposed project impact the product or services supported by the state entity?

The proposed project will facilitate the reporting and tracking of mandated product declaration information from regulated entities which is one of the requirements in AB2446. It will be a critical tool for CARB to track the progress of embodied carbon reductions as the Bill requires. The proposed project can not only meet the requirements set in AB2446, but also enhance the transparency of regulated reporting data.

TIP: Copy and paste or click the + button in the lower right corner to add Business Programs, with background and context and impact descriptions as needed.

1.6 Project Justification

1. Strategic Business Alignment

Enterprise Architect

Title: [Information Technology Specialist II](#)

Name: [Dewayne Debbs](#)

Strategic Plan Last Updated? [1/21/2021](#)

Strategic Business Goal: [Achieve Carbon Neutrality and Net Negative Thereafter](#)

Alignment: [The proposed project will facilitate the reporting and tracking mechanism which enable the achievement of the carbon reduction targets set in AB 2446. It aligns with one of the CARB's strategic business goals- "Achieve carbon neutrality and net negative thereafter".](#)

TIP: Copy and paste or click the + button in the lower right corner to add Strategic Business Goals and Alignments as needed.

Mandate(s): [State](#)

Bill Number/Code, if applicable: [AB2446](#)

Add the Bill language that includes system-relevant requirements:

[CARB, by July 1, 2026, in consultation with relevant stakeholders, including, but not limited to, the California Building Standards Commission, the Department of Housing and Community Development, and the State Energy Resources Conservation and Development Commission, shall develop a framework for measuring and then reducing the average carbon intensity of the materials used in the construction of new buildings. The framework may include a tracking and reporting mechanism that would facilitate the achievement of the goals set in the Bill. Except for a fee to reimburse CARB for any administrative costs incurred in administering the reporting mechanism, CARB shall not impose any other charges on the participants in the reporting mechanism.](#)

TIP: Copy and paste or click the + button in the lower right corner to add Bill Numbers/Codes and relevant language as needed.

2. Business Driver(s)

Financial Benefit: [No](#)

Increased Revenue: [No](#)

Cost Savings: [No](#)

Cost Avoidance: **No**

Cost Recovery: **Yes**

Will the state incur a financial penalty or sanction if this proposal is not implemented? **No**

If the answer to the above question is "Yes," please explain:

[Click or tap here to enter text.](#)

Improvement

Better Services to the People of California: **Yes**

Efficiencies to Program Operations: **Yes**

Improved Equity, Diversity, and/or Inclusivity: **No**

Improved Health and/or Human Safety: **Yes**

Improved Information Security: **No**

Improved Business Continuity: **No**

Improved Technology Recovery: **No**

Technology Refresh: **No**

Technology End of Life: **No**

1.7 Business Outcomes Desired

Executive Summary of the Business Problem or Opportunity:

AB 2446 requires CARB, in consultation with California Building Standards Commission, the Department of Housing and Community Development, and the State Energy Resources Conservation and Development Commission, to establish a framework for reducing the carbon intensity of building materials 40% by end of 2035 and 20% by end of 2030 relative to a 2026 baseline by July 1, 2026. CARB will also need to determine the eligibility of construction materials and entities to report.

The framework includes a tracking and reporting mechanism that would facilitate the achievement of the goals set in the Bill. Regulated entities are expected to begin voluntarily reporting data to CARB in 2026 so the initial build of the reporting system needs to be available by then. Mandatory reporting is expected to begin in 2030 so the final build of the system will need to be complete by end of 2029. The bill requires that CARB shall not impose any other charges on the participants in the reporting mechanism except for a fee to reimburse CARB for any administrative costs.

The bill also requires CARB to develop a reduction strategy to achieve GHG reduction targets of embodied carbon emissions based on the reporting data during 2026 calendar year. The data will also allow CARB and a CARB-formed Technical Advisory Committee (TAC) to evaluate the feasibility

and cost impact of implementation and establish a system for addressing known cost impact and feasibility issues in strategy implementation.

Problem ID: 1

AB 2446 requires CARB, in consultation with relevant stakeholders, to collect carbon intensity information of building materials and develop a reporting mechanism ready to use by July 1, 2026 and completed by the end of 2029. CARB currently has no such mechanism or system to accept and store this data. CARB will eventually collect fees from entities that are required to report data to this system to cover the costs of administering the system, but CARB must develop the system in advance of collecting any fees.

Problem ID: 2

In addition to reporting, AB 2446 requires CARB to include tracking mechanism for regulated declaration data to ensure the achievement of carbon reduction targets set in the Bill. CARB currently has no such mechanism.

Problem ID: 3

CARB is also required to develop a comprehensive strategy and evaluate, in consultation with TAC, the feasibility and cost impact for implementing the strategy based on reporting data. CARB need to establish a system for addressing known cost impact and feasibility issues in strategy implementation. CARB currently has no such solution.

Objective ID: 1.1

Objective: Develop reporting instructions and requirements for entities undertaking covered construction projects and manufacturers of building materials to ensure the coverage of the Bill's requirement.

Metric: Instruction manual

Baseline: 0 (Unknown eligibility and instruction)

Target Result: Produce reporting instructions with eligibility information by July 1, 2026

Objective ID: 1.2

Objective: Develop and complete a cost-efficient and user-friendly reporting system that facilitate regulated entities' reporting and the storage of reported data required by AB 2446.

Metric: Reporting system for embodied carbon in building materials

Baseline: 0 (No existing system)

Target Result: Establish and operate the system and reporting process that fulfills the bill's requirements and is accepted by regulated entities to use voluntarily in 2026 and for mandatory reporting of data by 2029.

Objective ID: 2.1

Objective: Develop auditing procedures in the system to ensure the accuracy and credibility of reporting data and tracking the achievement of carbon reduction targets set in the Bill.

Metric: Auditing procedure with a list of auditing criteria

Baseline: 0 (No existing auditing procedure)

Target Result: Establish and implement the auditing procedure for the tracking mechanism by July 1, 2026.

Objective ID: 2.2

Objective: Within the reporting system, develop a tracking mechanism in the system to facilitate assessment of whether the reported data complies with the 2030 and 2035 carbon intensity reduction goals

Metric: Tracking mechanism for assessing the carbon intensity of building materials and new buildings based on the reported data and comparison to the 2026 baseline

Baseline: 0 (No existing mechanism)

Target Result: Develop and operate the mechanism that enables an easy assessment of embodied carbon (GHG emissions) from reported data statewide.

Objective ID: 3.1

Objective: Within the reporting system, develop a structure to allow entities that are required to report data to provide documentation when they are unable to meet the 2030 and 2035 targets for reductions. Entities will be required to provide documentation of the steps they took to try to meet the targets and why they were unable to meet them. This data will be reviewed by the Technical Advisory Committee and used to make recommendations to the entity on what steps it could take for future similar project that would increase the entity's ability to meet the target.

Metric: Evaluation system for TAC to review and make recommendations

Baseline: 0 (No existing system)

Target Result: Develop and operate the system for TAC by July 1, 2026.

TIP: Copy and paste or click the + button in the lower right corner to add Objectives as needed. Please number for reference.

TIP: Objectives should identify WHAT needs to be achieved or solved. Each objective should identify HOW the problem statement can be solved and must have a target result that is specific, measurable, attainable, realistic, and time-bound. Objective must cover the specific. Metric and Baseline must detail how the objective is measurable. Target Result needs to support the attainable, realistic, and time-bound requirements.

1.8 Project Management

1. Project Management Risk Score: 0.1

(Attach a completed [Statewide Information Management Manual \(SIMM\) Section 45 Appendix A Project Management Risk Assessment Template](#) to the email submission.)

2. Project Approval Lifecycle Completion and Project Execution Capacity Assessment

Does the proposal development or project execution anticipate sharing resources (state staff, vendors, consultants, or financial) with other priorities within the Agency/state entity (projects, PALs, or programmatic/technology workload)?

Answer: Yes

Does the Agency/state entity anticipate this proposal will result in the creation of new business processes or changes to existing business processes?

Answer (No, New, Existing, or Both): New Processes

1.9 Initial Complexity Assessment

1. Business Complexity Score: 2.0

(Attach a completed [SIMM Section 45 Appendix C](#) to the email submission.)

2. Noncompliance Issues: (Indicate if your current operations include noncompliance issues and provide a narrative explaining how the business process is noncompliant.)

Programmatic regulations: Yes

HIPAA/CIIS/FTI/PII/PCI: No

Security: No

ADA: No

Other: No

Not Applicable: No

Noncompliance Description:

CARB would not implement the bill, which is contrary to legislative and Governor direction and risks litigation.

3. Additional Assessment Criteria

If there is an existing Privacy Threshold Assessment/Privacy Information Assessment, include it as an attachment to your email submission.

How many locations and total users is the project anticipated to affect?

Number of locations: 1 (CalEPA HQ at Sacramento)

Estimated Number of Transactions/Business Events (per cycle): Hundreds per year by 2030 when reporting is anticipated to become mandatory

Approximate number of internal end-users: 20

Approximate number of external end-users: 500

1.10 Funding

Planning

1. Does the Agency/state entity anticipate requesting additional resources through a budget action to **complete planning** through the project approval lifecycle framework? No

If Yes, when will a budget action be submitted to your Agency/DOF for planning dollars?

Please provide the Funding Source(s) and dates funds for planning will be made available:

Project Implementation Funding

1. Has the funding source(s) been identified for **project implementation**? Yes

If known, please provide the Funding Source(s) and dates funds for implementation will be made available:

Cost of Implementation Account. CARB's Budget Change Proposal requested ongoing funding for development, hosting, and maintenance of this reporting tool starting in FY 2023-2024.

Will a budget action be submitted to your Agency/DOF? Yes

If "Yes" is selected, specify when this BCP will be submitted: 9/26/2022

2. Please provide a rough order of magnitude (ROM) estimate as to the total cost of the project: Between \$10 Million and \$50 Million

End of agency/state entity document.

Please ensure ADA compliance before submitting this document to CDT.

When ready, submit Stage 1 and all attachments in an email to ProjectOversight@state.ca.gov.

Department of Technology Use Only

Original "New Submission" Date: [12/19/2022](#)

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Form Status: [Completed](#)

Form Status Date: [12/19/2022](#)

Form Disposition: [Approved](#)

If Other, specify: [Click or tap here to enter text.](#)

Form Disposition Date: [12/19/2022](#)

Department of Technology Project Number (0000-000): [3900-078](#)