DSA CODE AMENDMENT DEVELOPMENT

TRACKING

Date Received:

DSA Tracking Number: 01

Date Reviewed: August 26, 2025

Status: Draft

APPLICABLE CODE

Applicable Code Section(s): Part 11 CALGreen, Chapter 2 Definitions

Topic: Salvaged Material and Products Definition

CURRENT CODE LANGUAGE

SECTION 202
DEFINITIONS

…

SUGGESTED TEXT OF PROPOSED AMENDMENT

SECTION 202
DEFINITIONS

…

SALVAGED MATERIAL AND PRODUCTS. Previously used building materials or products that require limited to no processing for installation and reuse.

CODE TEXT IF ADOPTED

SECTION 202
DEFINITIONS

…

SALVAGED MATERIAL AND PRODUCTS. Previously used building materials or products that require limited to no processing for installation and reuse.

STATEMENT OF REASONS

DSA proposes to add the definition for Salvaged Material and Products to Section 202 for coordination with the proposed amendments to Section 5.409.3 Product GWP – Prescriptive Option.

This proposal is necessary for clarity of existing regulations and does not materially alter the substance or intent of the existing regulations.

DSA COMMENTS

This item relates to Item 12, Embodied Carbon Reduction. These amendments are being co-adopted with BSC.

TRACKING

Date Received:

DSA Tracking Number: 04

Date Reviewed: August 26, 2025

Status: Draft

APPLICABLE CODE

Applicable Code Section(s): Part 11 CALGreen, Chapter 5 Nonresidential Mandatory Measures

Topic: Reuse of Existing Building

CURRENT CODE LANGUAGE

SECTION 5.105
DECONSTRUCTION AND REUSE
OF EXISTING STRUCTURES

5.105.1 Scope.

[BSC-CG] Effective July 1, 2024, alteration(s) to existing building(s) where the combined altered floor area is 100,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 100,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3. Effective January 1, 2026, the combined floor area shall be 50,000 square feet or greater.

[DSA-SS] Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3.

> **Exception [BSC-CG, DSA-SS]:** Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.105.2.

5.105.2 Reuse of existing building. An alteration or addition to an existing building shall maintain at a minimum 45 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

> **5.105.2.1 Verification of compliance**. Documentation shall be provided in the construction documents to demonstrate compliance with Section 5.105.2.

Note: Sample Worksheet WS-3 in Chapter 8 may be used to assist in documenting compliance with this section.

5.105.3 Deconstruction (Reserved).

SUGGESTED TEXT OF PROPOSED AMENDMENT

SECTION 5.105
DECONSTRUCTION AND REUSE
OF EXISTING STRUCTURES

5.105.1 ~~Scope.~~ Reserved.

~~**[BSC-CG]** Effective July 1, 2024, alteration(s) to existing building(s) where the combined altered floor area is 100,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 100,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3. Effective January 1, 2026, the combined floor area shall be 50,000 square feet or greater.~~

~~**[DSA-SS]** Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to an existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3.~~

> ~~**Exception [BSC-CG, DSA-SS]:** Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.105.2.~~

5.105.2 Reuse of existing building. For reuse of existing buildings embodied carbon reduction requirements see Section 5.409. ~~An alteration or addition to an existing building shall maintain at a minimum 45 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.~~

> ~~**5.105.2.1 Verification of compliance**. Documentation shall be provided in the construction documents to demonstrate compliance with Section 5.105.2.~~
>
> > ~~**Note:** Sample Worksheet WS-3 in Chapter 8 may be used to assist in documenting compliance with this section.~~

5.105.3 Deconstruction (Reserved).

CODE TEXT IF ADOPTED

SECTION 5.105
DECONSTRUCTION AND REUSE
OF EXISTING STRUCTURES

5.105.1 Reserved.

5.105.2 Reuse of existing building. For reuse of existing buildings embodied carbon reduction requirements see Section 5.409.

5.105.3 Deconstruction (Reserved).

STATEMENT OF REASONS

DSA proposes to relocate Section 5.105.2, Reuse of Existing Building, to Section 5.409 where the other two options for compliance with CALGreen embodied carbon reduction are located. In response to stakeholder questions, this will clarify that there are three options for embodied carbon reduction compliance including Reuse of Existing Building Option as the first. Section 5.105.2 will be reserved for future use.

This proposal is necessary for clarity of existing regulations and does not materially alter the substance or intent of the existing regulations.

DSA COMMENTS

This Item relates to Item 12, Embodied Carbon Reduction. These amendments are being co-adopted with BSC.

TRACKING

Date Received:

DSA Tracking Number: 10

Date Reviewed: August 26, 2025

Status: Draft

APPLICABLE CODE

Applicable Code Section(s): Part 11 CALGreen, Chapter 5 Nonresidential Mandatory Measures

Topic: Definitions

CURRENT CODE LANGUAGE

SECTION 5.402
DEFINITIONS

5.402.1 Definitions. The following terms are defined in Chapter 2.

ADJUST.

BALANCE.

BUILDING COMMISSIONING.

BUY CLEAN CALIFORNIA ACT (BCCA).

CRADLE-TO-GRAVE.

ORGANIC WASTE.

REFERENCE STUDY PERIOD.

TEST.

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD).

FACTORY-SPECIFIC EPD.

INDUSTRY-WIDE EPD (IW-EPD).

PRODUCT-SPECIFIC EPD.

SUGGESTED TEXT OF PROPOSED AMENDMENT

SECTION 5.402
DEFINITIONS

5.402.1 Definitions. The following terms are defined in Chapter 2.

ADJUST.

BALANCE.

BUILDING COMMISSIONING.

BUY CLEAN CALIFORNIA ACT (BCCA).

CRADLE-TO-GRAVE.

ORGANIC WASTE.

REFERENCE STUDY PERIOD.

TEST.

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD).

FACTORY-SPECIFIC EPD.

INDUSTRY-WIDE EPD (IW-EPD).

PRODUCT-SPECIFIC EPD.

SALVAGED MATERIAL AND PRODUCT.

CODE TEXT IF ADOPTED

SECTION 5.402
DEFINITIONS

5.402.1 Definitions. The following terms are defined in Chapter 2.

ADJUST.

BALANCE.

BUILDING COMMISSIONING.

BUY CLEAN CALIFORNIA ACT (BCCA).

CRADLE-TO-GRAVE.

ORGANIC WASTE.

REFERENCE STUDY PERIOD.

TEST.

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD).

FACTORY-SPECIFIC EPD.

INDUSTRY-WIDE EPD (IW-EPD).

PRODUCT-SPECIFIC EPD.

SALVAGED MATERIAL AND PRODUCT.

STATEMENT OF REASONS

The new defined term below is added to the list for consistency in the code. However, the term definition is in Chapter 2.

This proposal is necessary for clarity of existing regulations and does not materially alter the substance or intent of the existing regulations.

DSA COMMENTS

This Item relates to Item 12, Embodied Carbon Reduction. These amendments are being co-adopted with BSC.

TRACKING

Date Received:

DSA Tracking Number: 12

Date Reviewed: August 26, 2025

Status: Draft

APPLICABLE CODE

Applicable Code Section(s): Part 11 CALGreen, Chapter 5 Nonresidential Mandatory Measures

Topic: Embodied Carbon Reduction

CURRENT CODE LANGUAGE

SECTION 5.409
LIFE CYCLE ASSESSMENT

5.409.1 Scope.

[BSC-CG] Effective July 1, 2024, projects consisting of newly constructed building(s) with a combined floor area of 100,000 square feet or greater shall comply with either Section 5.409.2 or Section 5.409.3. Alteration(s) to existing building(s) where the combined altered floor area is 100,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 100,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3. Effective January 1, 2026, the combined floor area shall be 50,000 square feet or greater.

[DSA-SS] Projects consisting of newly constructed building(s) with a combined floor area of 50,000 square feet or greater shall comply with either Section 5.409.2 or Section 5.409.3. Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3.

5.409.2 Whole building life cycle assessment. Projects shall conduct a cradle-to-grave whole building life cycle assessment performed in accordance with ISO 14040 and ISO 14044, excluding operating energy, and demonstrating a minimum 10-percent reduction in global warming potential (GWP) as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of the *California Energy Code* currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO 14044, and ISO 21930 or EN 15804, and the software shall conform to

ISO 21931 and/or EN 15978. The software tools and data sets shall be the same for evaluation of both the baseline building and the proposed building.

Notes:

1. Software for calculating whole building life cycle assessment is available for free at Athena Sustainable Materials Institute (https://calculatelca.com/software/impact-estimator/) and OneClick LCA-Planetary (www.oneclicklca.com/planetary). Paid versions include, but are not limited to, Sphera GaBi Solutions (gabi.sphera.com), SimaPro (simapro.com), One-Click LCA (www.oneclicklca.com) and Tally for Revit (apps.autodesk.com).

2. ASTM E2921-22 “Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes, Standards, and Rating Systems” may be consulted for the assessment.

3. In addition to the required documentation specified in Section 5.409.2.3, Worksheet WS-9 may be required by the enforcing entity to demonstrate compliance with the requirements.

5.409.2.1 Building components. Building enclosure components included in the assessment shall be limited to glazing assemblies, insulation, and exterior finishes. Primary and secondary structural members included in the assessment shall be limited to footings and foundations, and structural columns, beams, walls, roofs, and floors.

5.409.2.2 Reference study period. The reference study period of the proposed building shall be equal to the reference baseline building and shall be 60 years.

5.409.2.3 Verification of compliance. A summary of the GWP analysis produced by the software and Worksheet WS-4 signed by the design professional of record shall be provided in the construction documents as documentation of compliance. A copy of the whole building life cycle assessment which includes the GWP analysis produced by the software, in addition to maintenance and training information, shall be included in the operation and maintenance manual and shall be provided to the owner at the close of construction. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

5.409.3 Product GWP compliance—prescriptive path. Each product that is permanently installed and listed in Table 5.409.3 shall have a Type III environmental product declaration (EPD), either product-specific or factory-specific.

5.409.3.1 Products shall not exceed the maximum GWP value specified in Table 5.409.3.

Exception: Concrete may be considered one product category to meet compliance with this section. A weighted average of the maximum GWP for all concrete mixes installed in the project shall be less than the weighted average maximum GWP allowed per Table 5.409.3 using Exception Equation 5.409.3.1. Calculations shall be performed with consistent units of measurement for the

material quantity and the GWP value. For the purposes of this exception, industry-wide EPDs are acceptable.

Exception EQUATION 5.409.3.1

$GWP_n < GWP_{allowed}$

where

$GWP_n = \Sigma (GWP_n)(v_n)$

and

$GWP_{allowed} = \Sigma (GWP_{allowed})(v_n)$

and

n = each concrete mix installed in the project

GWP_n = the GWP for concrete mix *n* per concrete mix EPD, in kg CO2e/m^3

$GWP_{allowed}$ = the GWP potential allowed for concrete mix *n* per Table 5.409.3

v_n = the volume of concrete mix *n* installed in the project, in m^3

5.409.3.2 Verification of compliance. Calculations to demonstrate compliance, Type III EPDs for products required to comply, if included in the project, and Worksheet WS-5 signed by the design professional of record shall be provided on the construction documents. Updated EPDs for products used in construction shall be provided to the owner at the close of construction and to the enforcement entity upon request. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

TABLE 5.409.3
PRODUCT GWP LIMITS

Buy Clean California Materials Product Category [1]	Maximum acceptable GWP value (unfabricated) ($GWP_{allowed}$)	Unit of Measurement
Hot-rolled structural steel sections	1.77	MT CO_2e/MT
Hollow structural sections	3.00	MT CO_2e/MT
Steel plate	2.61	MT CO_2e/MT
Concrete reinforcing steel	1.56	MT CO_2e/MT
Flat glass	2.50	kg CO_2e/MT
Light-density mineral wool board insulation	5.83	kg CO_2e/1 m^2
Heavy-density mineral wool board insulation	14.28	kg CO_2e/1 m^2

Concrete, Ready-Mixed [2, 3]

Concrete Product Category	Maximum GWP allowed value ($GWP_{allowed}$)	Unit of Measurement
up to 2499 psi	450	kg CO_2e/m^3
2500-3499 psi	489	kg CO_2e/m^3
3500-4499 psi	566	kg CO_2e/m^3
4500-5499 psi	661	kg CO_2e/m^3
5500-6499 psi	701	kg CO_2e/m^3
6500 psi and greater	799	kg CO_2e/m^3

Concrete, Lightweight Ready-Mixed [2]

Concrete Product Category	Maximum GWP allowed value ($GWP_{allowed}$)	Unit of Measurement
up to 2499 psi	875	kg CO_2e/m^3
2500-3499 psi	956	kg CO_2e/m^3
3500-4499 psi	1,039	kg CO_2e/m^3

1. The GWP values of the products listed in Table 5.409.3 are based on 175 percent of Buy Clean California Act (BCCA) GWP values, except for concrete products which are not included in BCCA.
2. For concrete, 175 percent of the National Ready Mix Concrete Association (NRMCA) 2022 version 3 Pacific Southwest regional benchmark values are used for the GWP allowed, except for High Early strength.
3. Concrete High Early Strength ready-mixed shall be calculated at 130 percent of the Ready mixed concrete GWP allowed values for each product category.

Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

SECTION 5.409
~~LIFE CYCLE ASSESSMENT~~ EMBODIED CARBON REDUCTION

5.409.1 Scope.

[BSC-CG] (…)

[DSA-SS] Projects consisting of newly constructed building(s) with a combined floor area of 50,000 square feet or greater shall comply with either Section 5.409.~~2~~3 or Section 5.409.~~3~~4. Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section 5.~~105~~409.2, 5.409.~~2~~3, or 5.409.~~3~~4. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section 5.~~105~~409.2, Section 5.409.~~2~~3, or Section 5.409.~~3~~4.

> [The following exception is moved here from Section 5.105.1] **Exception [BSC-CG, DSA-SS]:** Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.~~105~~409.2.

[The following language is moved from Section 5.105.2 with minor modifications]**5.409.2 Reuse of existing building option.** An alteration or addition to an existing building shall maintain at a minimum 45 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

> **5.409.2.1 Verification of compliance**. Documentation shall be provided in the construction documents to demonstrate compliance with Section 5.~~105~~409.2.
>
> > **Note:** Sample Worksheet WS-3 in Chapter 8 may be used to assist in documenting compliance with this section.

5.409.3 Product GWP ~~compliance~~ - prescriptive ~~path~~ option. Each product that is permanently installed and listed in Table 5.409.3 shall not exceed the maximum GWP value specified in Table 5.409.3 and shall have a Type III environmental product declaration (EPD), either product-specific or factory-specific.

> ~~**5.409. 3.1** Products shall not exceed the maximum GWP value specified in Table 5.409. 3.~~
>
> > **Exceptions:**
> >
> > **1:** Salvaged materials and products are not required to have a Type III EPD and shall have a GWP of zero.
> >
> > **Exception2:** ~~Concrete may be considered one product category to meet compliance with this section.~~ Concrete mixes may be considered individually, or as a~~A~~ weighted average of the maximum GWP for all concrete mixes installed in the project. The weighted average maximum GWP shall be less than the

weighted average maximum GWP allowed per Table 5.409.3 using Exception Equation 5.409.3~~.1~~. Calculations shall be performed with consistent units of measurement for the material quantity and the GWP value. For the purposes of this exception, industry-wide EPDs are acceptable.

Exception 2 EQUATION 5.409.3~~.1~~

$GWP_n < GWP_{allowed}$

where

$GWP_n = \Sigma\ (GWP_n)(v_n)$

and

$GWP_{allowed} = \Sigma\ (GWP_{allowed})(v_n)$

and

n = each concrete mix installed in the project

GWP_n = the GWP for concrete mix *n* per concrete mix EPD, in kg $CO2e/m^3$

$GWP_{allowed}$ = the GWP potential allowed for concrete mix *n* per Table 5.409.3

v_n = the volume of concrete mix *n* installed in the project, in m^3

5.409.3.~~2~~1 Verification of compliance. Calculations to demonstrate compliance, Type III EPDs for products required to comply, if included in the project, and Worksheet WS-5 signed by the design professional of record shall be provided on the construction documents. Updated EPDs for products used in construction shall be provided to the owner at the close of construction and to the enforcement entity upon request. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

TABLE 5.409.3
PRODUCT GWP LIMITS

Buy Clean California Materials Product Category [1]	Maximum acceptable GWP value (unfabricated) ($GWP_{allowed}$)	Unit of Measurement
Hot-rolled structural steel sections	1.77	MT CO_2e/MT
Hollow structural sections	3.00	MT CO_2e/MT
Steel plate	2.61	MT CO_2e/MT
Concrete reinforcing steel	1.56	MT CO_2e/MT

Flat glass	2.50	~~kg CO_2e/MT~~ MT CO_2e/MT
Light-density mineral wool board insulation	5.83	kg CO_2e/1 m^2
Heavy-density mineral wool board insulation	14.28	kg CO_2e/1 m^2

Concrete, Ready-Mixed [2, 3]

Concrete Product Category	Maximum GWP allowed value (GWP $_{allowed}$)	Unit of Measurement
up to 2499 psi	450	kg CO_2e/m^3
2500-3499 psi	489	kg CO_2e/m^3
3500-4499 psi	566	kg CO_2e/m^3
4500-5499 psi	661	kg CO_2e/m^3
5500-6499 psi	701	kg CO_2e/m^3
6500 psi and greater	799	kg CO_2e/m^3

Concrete, Lightweight Ready-Mixed [2]

Concrete Product Category	Maximum GWP allowed value (GWP $_{allowed}$)	Unit of Measurement
up to 2499 psi	875	kg CO_2e/m^3
2500-3499 psi	956	kg CO_2e/m^3
3500-4499 psi	1,039	kg CO_2e/m^3

1. The GWP values of the products listed in Table 5.409.3 are based on 175 percent of Buy Clean California Act (BCCA) GWP values, except for concrete products which are not included in BCCA.
2. For concrete, 175 percent of the National Ready Mix Concrete Association (NRMCA) 2022 version 3 Pacific Southwest regional benchmark values are used for the GWP allowed, except for High Early strength.
3. Concrete High Early Strength ready-mixed shall be calculated at 130 percent of the Ready mixed concrete GWP allowed values for each product category.

~~**Note:** A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.~~

[The following language is moved from Section 5.409.2 with modifications]**5.409.4~~2~~ Whole building life cycle assessment – performance option.** Projects shall conduct a cradle-to-grave whole building life cycle assessment performed in accordance with ISO 14040 and ISO 14044, excluding operating energy, and demonstrating a minimum 10-percent reduction in global warming potential (GWP) as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and geographic location that meets the requirements of the *California Energy Code* currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO 14044, and ISO 21930 or EN 15804, and the software shall conform to ISO 21931 and/or EN 15978. The software tools and data sets shall be the same for evaluation of both the baseline building and the proposed building.

Notes:

1. Software for calculating whole building life cycle assessment is available for free at Athena Sustainable Materials Institute (https://calculatelca.com/software/impact-estimator/) and OneClick LCA-Planetary (www.oneclicklca.com/planetary). Paid versions include, but are not limited to, Sphera GaBi Solutions (gabi.sphera.com), SimaPro (simapro.com), One-Click LCA (www.oneclicklca.com), and Tally for Revit (apps.autodesk.com).

2. ASTM E2921-22 “Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes, Standards, and Rating Systems” may be consulted for the assessment.

3. In addition to the required documentation specified in Section 5.409.4.5~~2.3~~, Worksheet WS-9 may be required by the enforcing entity to demonstrate compliance with the requirements.

5.409.4~~2~~.1 Building components. Building enclosure components included in the assessment shall be limited to glazing assemblies, insulation, and exterior finishes. Primary and secondary structural members included in the assessment shall be limited to footings and foundations, and structural columns, beams, walls, roofs, and floors.

5.409.4~~2~~.2 Reference study period. The reference study period of the proposed building shall be equal to the reference baseline building and shall be 60 years.

5.409.4~~2~~.3 Verification of compliance. A summary of the GWP analysis produced by the software and Worksheet WS-4 signed by the design professional of record shall be provided in the construction documents as documentation of compliance. A copy of the whole building life cycle assessment which includes the GWP analysis produced by the software, in addition to maintenance and training information, shall be included in the operation and maintenance manual and shall be provided to the owner at the close of construction. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

CODE TEXT IF ADOPTED

SECTION 5.409
EMBODIED CARBON REDUCTION

5.409.1 Scope.

[BSC-CG] (…)

[DSA-SS] Projects consisting of newly constructed building(s) with a combined floor area of 50,000 square feet or greater shall comply with either Section 5.409.3 or Section 5.409.4. Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section 5.409.2, 5.409.3, or 5.409.4. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section 5.409.2, Section 5.409.3, or Section 5.409.4.

Exception [BSC-CG, DSA-SS]: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.409.2.

5.409.2 Reuse of existing building option. An alteration or addition to an existing building shall maintain at a minimum 45 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

5.409.2.1 Verification of compliance. Documentation shall be provided in the construction documents to demonstrate compliance with Section 5.409.2.

Note: Sample Worksheet WS-3 in Chapter 8 may be used to assist in documenting compliance with this section.

5.409.3 Product GWP - prescriptive option. Each product that is permanently installed and listed in Table 5.409.3 shall not exceed the maximum GWP value specified in Table 5.409.3 and shall have a Type III environmental product declaration (EPD), either product-specific or factory-specific.

Exceptions:

1: Salvaged materials and products are not required to have a Type III EPD and shall have a GWP of zero.

2: Concrete mixes may be considered individually, or as a weighted average of the maximum GWP for all concrete mixes installed in the project. The weighted average maximum GWP shall be less than the weighted average maximum GWP allowed per Table 5.409.3 using Exception Equation 5.409.3. Calculations shall be performed with consistent units of measurement for the material quantity and the GWP value. For the purposes of this exception, industry-wide EPDs are acceptable.

Exception 2 EQUATION 5.409.3

$GWP_n < GWP_{allowed}$

where

$GWP_n = \Sigma\ (GWP_n)(v_n)$

and

$GWP_{allowed} = \Sigma\ (GWP_{allowed})(v_n)$

and

n = each concrete mix installed in the project

GWP_n = the GWP for concrete mix *n* per concrete mix EPD, in kg CO2e/m^3

$GWP_{allowed}$ = the GWP potential allowed for concrete mix *n* per Table 5.409.3

v_n = the volume of concrete mix *n* installed in the project, in m^3

5.409.3.1 Verification of compliance. Calculations to demonstrate compliance, Type III EPDs for products required to comply, if included in the project, and Worksheet WS-5 signed by the design professional of record shall be provided on the construction documents. Updated EPDs for products used in construction shall be provided to the owner at the close of construction and to the enforcement entity upon request. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

TABLE 5.409.3
PRODUCT GWP LIMITS

Buy Clean California Materials Product Category [1]	Maximum acceptable GWP value (unfabricated) ($GWP_{allowed}$)	Unit of Measurement
Hot-rolled structural steel sections	1.77	MT CO_2e/MT
Hollow structural sections	3.00	MT CO_2e/MT
Steel plate	2.61	MT CO_2e/MT
Concrete reinforcing steel	1.56	MT CO_2e/MT
Flat glass	2.50	MT CO_2e/MT
Light-density mineral wool board insulation	5.83	kg CO_2e/1 m^2
Heavy-density mineral wool board insulation	14.28	kg CO_2e/1 m^2

Concrete, Ready-Mixed [2, 3]

Concrete Product Category	Maximum GWP allowed value ($GWP_{allowed}$)	Unit of Measurement
up to 2499 psi	450	kg CO_2e/m^3
2500-3499 psi	489	kg CO_2e/m^3
3500-4499 psi	566	kg CO_2e/m^3
4500-5499 psi	661	kg CO_2e/m^3
5500-6499 psi	701	kg CO_2e/m^3
6500 psi and greater	799	kg CO_2e/m^3

Concrete, Lightweight Ready-Mixed [2]

Concrete Product Category	Maximum GWP allowed value ($GWP_{allowed}$)	Unit of Measurement

up to 2499 psi	875	kg CO_2e/m^3
2500-3499 psi	956	kg CO_2e/m^3
3500-4499 psi	1,039	kg CO_2e/m^3

1. The GWP values of the products listed in Table 5.409.3 are based on 175 percent of Buy Clean California Act (BCCA) GWP values, except for concrete products which are not included in BCCA.
2. For concrete, 175 percent of the National Ready Mix Concrete Association (NRMCA) 2022 version 3 Pacific Southwest regional benchmark values are used for the GWP allowed, except for High Early strength.
3. Concrete High Early Strength ready-mixed shall be calculated at 130 percent of the Ready mixed concrete GWP allowed values for each product category.

5.409.4 Whole building life cycle assessment – performance option. Projects shall conduct a cradle-to-grave whole building life cycle assessment performed in accordance with ISO 14040 and ISO 14044, excluding operating energy, and demonstrating a minimum 10-percent reduction in global warming potential (GWP) as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and geographic location that meets the requirements of the *California Energy Code* currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO 14044, and ISO 21930 or EN 15804, and the software shall conform to ISO 21931 and/or EN 15978. The software tools and data sets shall be the same for evaluation of both the baseline building and the proposed building.

Notes:

1. Software for calculating whole building life cycle assessment is available for free at Athena Sustainable Materials Institute (https://calculatelca.com/software/impact-estimator/) and OneClick LCA-Planetary (www.oneclicklca.com/planetary). Paid versions include, but are not limited to, Sphera GaBi Solutions (gabi.sphera.com), SimaPro (simapro.com), One-Click LCA (www.oneclicklca.com), and Tally for Revit (apps.autodesk.com).

2. ASTM E2921-22 “Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes, Standards, and Rating Systems” may be consulted for the assessment.

3. In addition to the required documentation specified in Section 5.409.4.5~~2.3~~, Worksheet WS-9 may be required by the enforcing entity to demonstrate compliance with the requirements.

5.409.4.1 Building components. Building enclosure components included in the assessment shall be limited to glazing assemblies, insulation, and exterior finishes. Primary and secondary structural members included in the assessment shall be limited to footings and foundations, and structural columns, beams, walls, roofs, and floors.

5.409.4.2 Reference study period. The reference study period of the proposed building shall be equal to the reference baseline building and shall be 60 years.

5.409.4.3 Verification of compliance. A summary of the GWP analysis produced by the software and Worksheet WS-4 signed by the design professional of record shall be

provided in the construction documents as documentation of compliance. A copy of the whole building life cycle assessment which includes the GWP analysis produced by the software, in addition to maintenance and training information, shall be included in the operation and maintenance manual and shall be provided to the owner at the close of construction. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

STATEMENT OF REASONS

DSA proposes to relocate Section 5.105, Deconstruction and Reuse of Existing Structures, to Section 5.409 and rename Section 5.409 to Embodied Carbon Reduction, with subsection 5.409.2, 5.409.3 and 5.409.4 reorganized and renamed to identify them as “options”. This will clarify that there are three options for embodied carbon reduction compliance including Reuse of Existing Building Option, Product GWP – Prescriptive Option, or Whole Building Life Cycle Assessment – Performance Option as applicable based on project type and scale.

DSA proposes to amend the language of Section 5.409.3 to clarify that only the items listed in Table 5.409.3 require a type III EPD.

DSA proposes to add Exception 1 for Salvaged Materials and Products to Section 5.409.3 to clarify that Salvaged Materials and Products comply with the GWP limits of Table 5.409.3 and are not required to have a type III EPD.

DSA proposes to amend the language of Section 5.409.3, Exception 2, to clarify that concrete mixes may be considered individually or as a weighted average for compliance with Section 5.409.3.

DSA proposes to amend Table 5.409.3 to correct the unit of measurement for flat glass.

DSA proposes to remove the note following Table 5.409.3 as it is no longer applicable.

DSA proposes to amend the language of Section 5.409.4 to clarify that “location” is intended to mean “geographic location”.

This proposal is necessary for clarity of existing regulations and does not materially alter the substance or intent of the existing regulations.

DSA COMMENTS

This item relates to Item 01 (Salvaged Material Definition), Item 04 (Reuse of Existing Building), and Item 13 (Embodied Carbon Worksheets). These amendments are being co-adopted with BSC.

TRACKING

Date Received:

DSA Tracking Number: 13

Date Reviewed: August 26, 2025

Status: Draft

APPLICABLE CODE

Applicable Code Section(s): Part 11 CALGreen, Chapter 8 Compliance Forms, Worksheets and Reference Material

Topic: Embodied Carbon Worksheets

CURRENT CODE LANGUAGE

WORKSHEET (WS-3)
5.105.2 BUILDING REUSE

DOCUMENTATION OF COMPLIANCE OF EXISTING BUILDING REUSE

Area of Existing Building(s) _____ SF
Area of Aggregate Addition(s) (if applicable) _____ SF

	EXISTING TOTAL AREA (A)	RETAINED TOTAL AREA (B)	% OF RETAINED STRUCTURE (B)/(A)
Primary Structural Elements of Existing Building(s) (foundations; columns, beams, walls, and floors; and lateral elements)	_____ SF	_____ SF	_____ SF
Building Enclosure of Existing Building(s) (roof framing, wall framing and exterior finishes only)	_____ SF	_____ SF	_____ SF

Total % Reuse of Required Elements ≥ 45% _____ %

WORKSHEET (WS-4)
Section 5.409.2 WHOLE BUILDING LIFE CYCLE ASSESSMENT

Responsible Designer's Declaration Statement:
I attest that the Whole Building Life Cycle Analysis has been performed according to the

requirements of Section 5.409.2 and has met the minimum 10 percent reduction in global warming potential as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of the California Energy Code currently in effect. Furthermore, I will ensure during construction that the material specifications will be reviewed for substantial conformance with the life cycle assessment indicated on the approved plans so at the close of construction the minimum 10 percent reduction in global warming potential is thereby secured.

…

WORKSHEET (WS-5)
Section 5.409.3 PRODUCT GWP COMPLIANCE—PRESCRIPTIVE PATH

Responsible Designer's Declaration Statement:
I attest that prescriptive compliance has been performed according to the requirements of Section 5.409.3 and products have met the minimum 10 percent reduction in global warming potential as specified in Table 5.409.3. Furthermore, I will ensure during construction that the material specifications will be reviewed for substantial conformance with the global warming potential limits indicated on the approved plans so at the close of construction the minimum 10 percent reduction in global warming potential is thereby secured.

…

WORKSHEET (WS-9)
Section 5.409.2 and Section A5.409.2 WHOLE BUILDING LIFE CYCLE ASSESSMENT

…

SUGGESTED TEXT OF PROPOSED AMENDMENT

WORKSHEET (WS-3)
~~5.105.2~~SECTION 5.409.2 ~~BUILDING~~ REUSE OF EXISTING BUILDING OPTION

DOCUMENTATION OF COMPLIANCE OF EXISTING BUILDING REUSE

Area of Existing Building(s) _____ SF
Area of Aggregate Addition(s) (if applicable) _____ SF

	EXISTING TOTAL AREA (A)	RETAINED TOTAL AREA (B)	% OF RETAINED STRUCTURE (B)/(A)
Primary Structural Elements of Existing Building(s) (foundations; columns, beams, walls, and floors; and lateral elements)	_____ SF	_____ SF	_____ ~~SF~~%
Building Enclosure of Existing Building(s) (roof framing, wall framing and exterior finishes only)	_____ SF	_____ SF	_____ ~~SF~~%

Total % Reuse of Required Elements ≥ 45% _____ %

WORKSHEET (WS-4)
Section 5.409.42 WHOLE BUILDING LIFE CYCLE ASSESSMENT – PERFORMANCE OPTION

Responsible Designer's Declaration Statement:
I attest that the Whole Building Life Cycle Analysis has been performed according to the requirements of Section 5.409.42 and has met the minimum 10 percent reduction in global warming potential as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and geographic location that meets the requirements of the California Energy Code currently in effect. Furthermore, I will ensure during construction that the material specifications will be reviewed for substantial conformance with the life cycle assessment indicated on the approved plans so at the close of construction the minimum 10 percent reduction in global warming potential is thereby secured.

…

WORKSHEET (WS-5)
Section 5.409.3 PRODUCT GWP COMPLIANCE—PRESCRIPTIVE OPTIONPATH

Responsible Designer's Declaration Statement:
I attest that each product listed in Table 5.409.3 and intended to be permanently installed complies with prescriptive compliance has been performed according to the requirements of Section 5.409.3 and does not exceed the maximum products have met the minimum 10 percent reduction in global warming potential (GWP) value as specified in Table 5.409.3. Furthermore, I will ensure during construction that allthe material specifications and substitutions will be reviewed for substantial conformance with the requirements of Section 5.409.3 global warming potential limits indicated on the approved plans so at the close of construction compliance with the maximum GWP values the minimum 10 percent reduction in global warming potential is thereby secured.

…

WORKSHEET (WS-9)
Section 5.409.42 and Section A5.409.42 WHOLE BUILDING LIFE CYCLE ASSESSMENT – PERFORMANCE OPTION

…

CODE TEXT IF ADOPTED

WORKSHEET (WS-3)
SECTION 5.409.2 REUSE OF EXISTING BUILDING OPTION

DOCUMENTATION OF COMPLIANCE OF EXISTING BUILDING REUSE

Area of Existing Building(s) _____ SF
Area of Aggregate Addition(s) (if applicable) _____ SF

	EXISTING TOTAL AREA (A)	RETAINED TOTAL AREA (B)	% OF RETAINED STRUCTURE (B)/(A)
Primary Structural Elements of Existing Building(s) (foundations; columns, beams, walls, and floors; and lateral elements)	_____ SF	_____ SF	_____ %
Building Enclosure of Existing Building(s) (roof framing, wall framing and exterior finishes only)	_____ SF	_____ SF	_____ %

Total % Reuse of Required Elements ≥ 45% _____ %

WORKSHEET (WS-4)
Section 5.409.4 WHOLE BUILDING LIFE CYCLE ASSESSMENT – PERFORMANCE OPTION

Responsible Designer's Declaration Statement:
I attest that the Whole Building Life Cycle Analysis has been performed according to the requirements of Section 5.409.4 and has met the minimum 10 percent reduction in global warming potential as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and geographic location that meets the requirements of the California Energy Code currently in effect. Furthermore, I will ensure during construction that the material specifications will be reviewed for substantial conformance with the life cycle assessment indicated on the approved plans so at the close of construction the minimum 10 percent reduction in global warming potential is thereby secured.

…

WORKSHEET (WS-5)
Section 5.409.3 PRODUCT GWP—PRESCRIPTIVE OPTION

Responsible Designer's Declaration Statement:
I attest that each product listed in Table 5.409.3 and intended to be permanently installed complies with the requirements of Section 5.409.3 and does not exceed the maximum global warming potential (GWP) value specified in Table 5.409.3. Furthermore, I will ensure during construction that all material specifications and substitutions will be reviewed for substantial conformance with the requirements of Section 5.409.3 so at the close of construction compliance with the maximum GWP values is thereby secured.

…

WORKSHEET (WS-9)
Section 5.409.4 and Section A5.409.4 WHOLE BUILDING LIFE CYCLE ASSESSMENT – PERFORMANCE OPTION

…

STATEMENT OF REASONS

DSA proposes to amend Worksheets 3 for coordination with the proposed renumbering and renaming amendments to Section 5.409.2. Additionally, the typo in the last column is corrected from “SF” to “%”.

DSA proposes to amend Worksheets 4 to clarify that the term “location” is intended to mean “geographic location”, and for coordination with the proposed renumbering and renaming amendments to Section 5.409.4.

DSA proposes to amend Worksheets 5 to clarify the language and intent of the section, and for coordination with the proposed renumbering and renaming amendments to Section 5.409.3.

DSA proposes to amend Worksheets 9 for coordination with the proposed renumbering and renaming amendments to Section 5.409.4.

This proposal is necessary for clarity of existing regulations and does not materially alter the substance or intent of the existing regulations.

DSA COMMENTS

This item relates to Item 12, Embodied Carbon Reduction. These amendments are being co-adopted with BSC.