

## FAQs for Glass in Buildings in Compliance with California AB262

**Q:** What is California AB262?

**A:** Known as the Buy Clean California Act, AB262 asks bidders on **public works projects** in California to submit an EPD, or Environmental Product Declaration, for specified building materials, including flat glass products.

The **public works project** authorities included in AB262 are: Department of Transportation, Department of Water Resources, Department of Parks and Recreation, Department of Corrections and Rehabilitation, Military Department, Department of General Services, Regents of the University of California, Trustees of the California State University and state agencies granted authority to work on public works projects under Management Memo 18-01.

According to California Department of General Services [website](#):

The Buy Clean California Act, (Public Contract Code § 3500-3505), states the Department of General Services (DGS) is required to establish and publish the maximum acceptable Global Warming Potential (GWP) per product. The target for the Act is embedded carbon emissions of structural steel (hot-rolled sections, hollow structural sections, and plate), concrete reinforcing steel, **flat glass**, and mineral wool board insulation. When these materials are utilized in a California public works project, they must have a GWP that does not exceed the limit set by DGS.

Key legislation dates:

- 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.

EPD submissions shall be developed according to Product Category Rules (PCRs).

### Flat Glass

The National Glass Association (NGA) has developed a PCR for flat glass (UN CPC 3711) with validity extended through September 30, 2020. NGA continues to work with supporters and other interested parties to clarify the language of the bill, ensure they understand the effects, and provide education about glass and glazing supply.

**Q:** What is Flat Glass?

**A:** California DGS defines flat glass in the AB262 [FAQ's](#) as “float or rolled glass that is clear or tinted”. The *GANA Glazing Manual* defines flat glass as a general term that describes float glass, sheet glass, plate glass and rolled glass. *ASTM International (ASTM) C1036 Standard Specification for Flat Glass* is the industry standard for thickness, dimensional tolerances and characteristics for annealed monolithic flat glass.

**NOTE:** flat glass manufacturers are several steps removed from the final product that is installed in public works buildings. The supply chain for glass also includes glass fabricators, contract glaziers, general contractors, etc.

**Q:** What is Processed Glass?

**A:** Processed glass is flat glass that has been further processed with coating, tempering, laminating, silk-screening, insulating, painting, etc. Glass installed in a public works building is almost certain to have been processed prior to installation. The installed flat glass will have been cut-to-size and typically heat-treated (tempered or heat-strengthened), and further processed into a fabricated glass product such as laminated, insulating, painted, etc.

The glass facade of a public works project often contains processed glass from multiple flat glass manufacturing locations and companies, given unique supply conditions for specific glass products and the likely mix of products installed in a commercial project. For example, to meet project needs and deadlines, a glass fabricator may supply processed glass for the project originating with flat glass purchased from more than one flat glass manufacturing location and potentially from multiple flat glass manufacturers.

**Q:** Why does AB262 reference flat glass when buildings are glazed with processed glass?

**A:** AB262 states flat glass and references the [flat glass Product Category Rule](#) (PCR) instead of processed glass and the [processed glass PCR](#). Processed glass is utilized in construction. Flat glass is not installed into completed commercial buildings; only processed glass is installed in buildings and processed glass is not included in AB262. NGA submitted a [letter](#) to DGS further clarifying this topic. However, AB262 has already been passed into law with language limited to flat glass.

**Q:** Is a facility-specific EPD required by the State of California for state (government) projects?

**A:** Buy Clean California Act [Frequently Asked Questions](#) state: A facility-specific manufacturer EPD is a product EPD in which the environmental impacts can be attributed to a single manufacturer and manufacturing facility.

However, a facility-specific EPD would be impractical and overly burdensome for the glass supply chain to track the source of glass because any project is typically sourced from multiple glass manufacturing and

fabrication locations. In addition, disclosure of facility specific rather than product specific environmental impact data could result in the disclosure of business-sensitive confidential data that may be used in ways that would be competitively disadvantageous.

None of the currently published EPDs for flat glass manufacturers that DGS proposes to use to calculate the industry average GWP value is facility-specific. Each is product-specific to that company. None of the currently published PCRs governing LCAs and EPDs provides for facility-specific EPDs, leaving the industry without governing rules for establishing system boundaries for facility-specific EPDs.

An informal [survey](#) of the NGA Forming Committee members indicates that none will be willing to publish facility-specific EPD data because of proprietary and cost concerns.

**Q:** Can GWP data found in different EPD documents be compared?

**A:** In order to compare GWP data, there are many factors that have to be the same (same background data, same electricity mix, same calculation method, is it a comparable product, was the same standard used, etc.). Therefore, it is not recommended to compare LCA studies, EPDs or data points within these documents with those of another organization as there may be differences in methodology; assumptions; allocation methods; data quality, such as variability in data sets; and results of variability in assessment software tools used. Furthermore, ISO 14025 Environmental Labels and Declarations Standard gives the requirements for comparing different EPDs in section 6.7.2, stating the product category must be identical with equivalent LCA, inventory analysis, methodology, environmental information, life cycles covered, etc.

**Q:** What do I need to do if I am a fabricator or glazing contractor and am asked for flat glass data by a customer in order to comply with AB262 in a public works building?

**A:** You will need to explain the following: California DGS defines Flat Glass in the AB262 [Frequently Asked Questions](#) as float or rolled glass that is clear or tinted. Flat Glass, as defined by AB262, is not supplied to public works buildings. Flat glass manufacturers are several steps removed from the final product that is installed in public works buildings. As legally written, AB262 does not apply to processed glass that is typically supplied to California public works buildings.

**Q:** What is Global Warming Potential (GWP)?

**A:** GWP is a measure of greenhouse gas emissions such as CO<sub>2</sub> and methane from the entire system boundary included in the LCA. The various GHGs produced when manufacturing a product, for example, can be represented by an equivalent amount of carbon dioxide associated with the warming effect of a given quantity of a GHG. This amount is the GWP and is labeled carbon dioxide equivalent, or CO<sub>2</sub> eq. GWP is intended for stakeholders and sustainability programs to better understand the environmental performance of glass and other products manufactured for buildings. The EPA provides further [information](#) on GWP.

**Q:** What is an EPD?

**A:** An Environmental Product Declaration (EPD) is an independently verified and registered document that reports a product's environmental impact over its life cycle. It provides a clear and complete report of the environmental impact of the construction products. EPDs are the summary of the LCA (Life Cycle Assessment), which is a study of all environmental impacts of a product across its life.

**Q:** What is the difference between an industry-wide EPD and a product-specific EPD?

**A:** EPDs can be developed either by a single company or by an industry group. Industry-wide EPDs may be developed by an industry association to provide a broad life cycle assessment of a product type. This generic EPD counts as one-half of a product for LEED v4 credit achievement calculations. Product-specific EPDs are developed by a manufacturer to provide detailed life cycle assessments for individual products. A product-specific EPD counts as one whole product for purposes of LEED v4 credit achievement calculations. NGA flat glass member companies published an industry-average EPD for flat glass sold in the United States in December 2019 (ref: ASTM-EPD121). Flat Glass companies may also publish product-specific EPDs.

**Q:** Where do I find the EPD results?

**A:** The Industry-Wide Flat Glass EPD is available for download [here](#). However, this EPD does not comply with AB262 because it is for flat glass instead of processed glass and is an industry-wide EPD instead of facility-specific. Click [here](#) to read Product Transparency FAQs.