News Release

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Participants at FGIA Summer Conference Learn Latest on Embodied Carbon Legislation, Regulation

SCHAUMBURG, IL – Dr. Kayla Natividad, engineer, gave a presentation called, “Embodied Carbon in Legislation, Regulation and Other Places” at the Fenestration and Glazing Industry Alliance (FGIA) Summer Conference in Montreal, QC. Natividad reviewed the differences among flat glass, processed glass and fenestration assemblies Product Category Rules (PCRs), which are being specified in legislation. Participants also learned the differences in key forms of embodied carbon policies like Buy Clean programs, climate action plans and zoning policies.

“I'm typically a glass nerd, but a close second is going through building codes and standards and policies,” said Natividad.

**Background on Embodied Carbon**

She began by defining embodied carbon as the amount of greenhouse gas (GHG) emissions associated with upstream stages of a product’s life, including extraction, production, transport and manufacturing. She said the U.S. industrial sector is linked to nearly a third of annual U.S. GHG emissions and that the manufacturing of construction materials and products accounts for 11 percent of annual global GHG emissions.

“I want to distinguish between embodied and operational carbon,” Natividad said. “Embodied is built in at the very beginning: it is how the material was made, where the material came from and how much of the material was used. Operational can be limited through energy codes, building performance standards, performance ratings and building design.”

**Quantifying Embodied Carbon**

Natividad said embodied carbon must be quantified. This is done through PCRs, Life Cycle Assessments (LCAs) and Environmental Product Declarations (EPDs). She described a PCR as “comparing apples to other apples,” LCAs as “seeing what goes into baking an apple pie” and EPDs as “making a nutrition label for that pie.”

“The most important three PCRs for us are probably Flat Glass, Processed Glass and Fenestration Assemblies, which was previously Windows,” said Natividad. “That Processed Glass one expires at the end of this month.”

**Regulations and Legislation**

Understanding PCRs, LCAs and EPDs can only help when it comes to future regulations and legislation. “Policy writers aren't material experts, and wording in legislation is important,” said Natividad. “If we don't understand something or don’t make it clear, they definitely won't.” There are 76 regulatory policies worldwide and 58 of them are in Canada and the U.S. Most in North America are implemented at the local or city level.

“With these, you set global warming potential limits for specific products, and everyone sets their own targets,” said Natividad. “There are many for asphalt, concrete and steel. Glass is an eligible material too.” Procurement programs currently are focused on flat glass. They are also predominately focused on public projects.

**What’s Next?**

Natividad offered some insight into the likely future of embodied carbon legislation and regulation.

“My crystal ball predicts the Environmental Protection Agency will standardize PCRs, and we know our Processed Glass PCR is about to expire,” said Natividad. “You can probably expect expansion of eligible materials, such as processed glass and full fenestration. There is a lot of work going into EPD generator tools to help.”

For more coverage about the FGIA Summer Conference, visit [FGIAonline.org](https://fgiaonline.org/)/news.

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