

# The Masonry Society

## *Sustainability E-News*

### *Embodied Carbon Accounting*

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#### SPONSORED EDITION

### **From The Editor**

While attention is rightly being paid to the impacts of building construction on our environment, the focus on embodied carbon can be somewhat misleading. The term 'embodied carbon' is often used to refer to the emissions of carbon dioxide (and related gases) during the manufacture of building products. The embodied carbon of a building usually refers to the sum of the CO<sub>2</sub>-equivalent emissions from all the products used in the building. However, as several articles in this edition point out, the science and assumptions behind the accounting of embodied carbon is not universally agreed upon. For example, it is only recently that the full impacts of harvesting wood are being considered, challenging the 'carbon neutral' status often automatically ascribed. Similarly, while it has been known for a long time that concrete products can absorb atmospheric carbon dioxide, that is something that is only beginning to be quantified. So, as you design buildings and select products, embodied carbon is certainly something to keep in mind, but remember to look at the full picture and the full life cycle of the products and the building.

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*NOTE: Inclusion in this newsletter is not an endorsement of the products and materials featured, nor have these products been evaluated by TMS or the editor. Furthermore, the views expressed in the articles featured are those of the article authors.*

### **GREEN BUILDING NEWS**

Embodied carbon seems to be the buzz word right now. As buildings get more efficient in their operations, attention rightly turns to the impacts from their construction. However, this is an area that is still developing, as the articles in this section show. ~Tina

### **Recent reports highlight the need for resilient building practices**

#### **USGBC**

Check out a [roundup of recent reports](#) on resilience topics. Recommendations include nature-based solutions, systemic resilience, and climate-focused adaptation and resilience. These include using cool surfaces to combat extreme heat and building storm- and flood-resilient buildings to deal with coastal flooding and

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storm surges among other recommendations. Included in the roundup is [a guide](#) released by the UN Environment Programme that shows how communities—especially those in developing countries—can construct buildings in a way that supports climate resilience.

## "Taking credit for trees planted elsewhere is a whole lot of embodied irony"

### DEZEEN

Architecture firm Perkins&Will has gone too far with claims that a luxury timber home on a Canadian mountain removes more atmospheric carbon than it emits, argues Fred A Bernstein in [this article](#).

## Reducing high-rise construction costs and carbon footprints

### STRUCTURE MAGAZINE

How do you successfully design and construct a high-rise residential tower while being mindful of costs and reducing its environmental impacts? This was a challenge posed to the design team, contractor, and subcontractors behind the 960 W 7<sup>th</sup> Street project in downtown Los Angeles, CA. [Read more](#).

## Carbon neutral, carbon net-zero differ in key ways

### NEW CIVIL ENGINEER

Carbon neutrality and carbon net-zero are not the same thing, explains Torill Bigg, chief carbon reduction engineer at Tunley Engineering. The former aims to not raise emissions and depends substantially on carbon offsets. The latter is about reducing emissions and employs "offsets as a last resort," Bigg writes in [this article](#).

## Low-cost, high-value opportunities

### CARBON LEADERSHIP FORUM

The solutions for addressing embodied carbon in buildings have not been widely studied in the United States, leaving a significant knowledge gap for engineers, architects, contractors, policymakers, and building owners. Embodied carbon can be reduced significantly at little to no additional up-front cost. The case studies showcased in [this report](#) show an embodied carbon savings potential of 24%–46% at cost premiums of less than 1%. Current practice indicates that we can achieve these reductions by specifying and substituting material alternatives with lower embodied carbon during the design and specification process. Far greater reductions are possible when a whole-building design approach is taken. As with most reports on embodied carbon, masonry systems are not mentioned in the report even though concrete, steel and wood structural systems are discussed.

## CODES and STANDARDS NEWS

Wondering what the next edition of the TMS 402/602 Building Code Requirements for Masonry Structures and Commentary might look like? Check out the links below for some insights. ~Tina

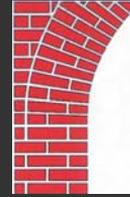
## New episode of Masonry Principles podcast now available

### MASONRY PRINCIPLES

The latest episode of the Masonry Principles podcast has been released. In this episode, Brian Trimble, PE, LEED AP, Director of Industry Development and Technical Services at the International Masonry Institute, dives into the world of masonry codes and brick details. Listen anywhere you get your podcasts. Find out more information [here](#).



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## Article highlights potential changes in new masonry code

### STRUCTURE MAGAZINE

The next edition of the Masonry Society's TMS 402/602, Building Code Requirements and Specifications for Masonry Structures, is due to be published in 2022. Some of the anticipated changes are reviewed in [this article](#), including some things that designers can use now.

### GREEN PRODUCT NEWS

Reducing the carbon footprint of concrete and concrete products gets a lot of attention. Now the absorption of carbon dioxide by concrete (carbonation) is getting a more serious look. ~Tina

## Climate report acknowledges concrete "carbonation sink"

### DEZEEN

Cementitious infrastructure acts as a "carbonation sink" that offsets roughly half the emissions from cement production, according to a report from the Intergovernmental Panel on Climate Change. The report also found that cement production accounted for only around 4% of total carbon emissions. Read more [here](#).

## Wood structures' newest red flag: ASTM floor noise standard

### CONCRETE PRODUCTS

A new standard from ASTM Committee E33 on Building and Environmental Acoustics establishes an evaluation metric for low-frequency impact noise, especially the thudding from footfalls typical in multi-level buildings constructed of materials other than cast-in-place or precast concrete. "When inside a wood-frame or other lightweight building, one can hear heavy footsteps from other occupants, which is usually described as thudding," says Samantha Rawlings, associate principal at Santa Monica, Calif.-based acoustical consultant Veneklasen Associates and technical contact for the new ASTM E3207-21, Standard Classification for Determination of Low-Frequency Impact Noise Ratings. "Using this standard opens a door of design capability that has not existed in more than 60 years of evaluating impact noise from footfalls in buildings." [Read more](#).

### EDUCATIONAL NEWS

## Fire Safety Webinar, September 8 at 1 pm ET

### THE MASONRY SOCIETY

Come learn from Kevin Cavanaugh, of Cavanaugh & Associates / Arcosa Lightweight / cfiFOAM about the Balanced Fire Safety Design concept and the crucial role that passive masonry firewalls play in it. Requirements in the building codes will be reviewed along with those in ACI/TMS 216 Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies. [Click here](#) for additional information on this helpful new webinar and to register.

## 2021 Annual Meeting registration now open!

### MASONRY SOCIETY.ORG

Experience Southern Hospitality in Nashville, TN as TMS returns to in person meetings! The Masonry Society's 2021 Annual Meeting will be held at the Millennium Maxwell House, in the heart of Music City, October 13 – 16. A number of educational programs will be presented



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in between business meetings and enjoyable social events. But perhaps of most importance, come back to see your TMS friends and to make new ones! We hope to see you there! Visit the [Annual Meeting page](#) for preliminary information on presentations, Committee Meetings, and Social Events.

## Check out the TMS Masonry Education Hub

### THE MASONRY SOCIETY

The Masonry Society (TMS) has launched the Masonry Education Hub, a Learning Management System that allows designers, professors, students, and other users to obtain on-demand masonry education. The [Masonry Education Hub](#) provides a central location for excellent and accessible training sessions on a variety of masonry topics from sustainability to strength design and more.

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