

“Embodied Energy” . . . What?



BY **PAUL KELLEY**

“**E**mbodied energy is a term coined to express the energy consumed in the production of a particular product or material.” [*Environmental Building News*, Vol. 2, No. 3; May 1993.]

The embodied energy of a building is all the original raw materials, fuel, transportation and labor that went into the initial construction. It is also fair to say it could include the additional energy and landfill required to demolish the building if it cannot be repurposed. Here’s a way to conceptualize embodied energy: Consider building a new home nearby to replace your existing home. How much material, landfill contribution, and carbon emission would be required to build it and tear down the existing one? This approximates the energy that’s encapsulated and the potential value of preserving what exists. If you have an older home, and it displays a sense of quality and craftsmanship of a particular period, you can now think of embodied energy as part of the intrinsic value of your home. You can’t see embodied energy, but once it is gone it’s lost forever.

Architecturally speaking, embodied energy may be one of the reasons you purchased your house in the first place. Holistically, it is felt in the charm and style of the home, as may be evident with exposed beams, beautiful wood floors,



mouldings and the like. It is one of the factors you instantly recognize when you realize that what you have cannot realistically be duplicated, much like imagining the replication of an old country lane with mature trees and stone walls.

Is this to say that our homes should never change? The short answer is no, because, generally,

professionals recognize buildings need to evolve with their occupants over time to remain viable, functional and able to be sustained for years to come. Energy upgrades and sustainability improvements can add to the aesthetics, efficiency and value of the home. Historic buildings may be an exception, to the extent that alterations could have a detrimental effect on the historic integrity and feel.

Recognizing embodied energy is a valuable tool for assessing how to best remodel or update your home. Can you live within the existing walls and make changes that affect comfort and style without giving up the original mass and charm? Can materials in a building renovation project be recycled on site? For example, can an old concrete walkway be saw-cut and used as pavers in a new landscape? Could old doors be repurposed as a shoji screen?

Maintaining what you love about your home not only makes you a good steward and keeps money in your pocket; it also conserves the original energy used and minimizes new energy and resources from being spent.

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