

Green Restorations

SUSTAINABLE BUILDING AND HISTORIC HOMES

AARON LUBECK



NEW SOCIETY PUBLISHERS

Foreword

by Donovan Rypkema,
author of “The Economics of Historic Preservation”.

Donovan Rypkema is principal of PlaceEconomics, a Washington, D.C.-based real estate and economic development consulting firm. The firm specializes in services to public and non-profit sector clients who are dealing with downtown and neighborhood commercial district revitalization and the reuse of historic structures. He is the author of The Economics of Historic Preservation: A Community Leader's Guide and teaches a graduate course in preservation economics at the University of Pennsylvania.

First things first — *sustainability* and *green buildings* are not synonyms. And yet cities around North America are racing each other to see who can adopt sustainability ordinances the fastest. But rarely are they about sustainability at all. They are about mandating solar panels, waterless toilets and backdraft dampers. The more enlightened might even require a bike rack or two, but the greatest emphasis is on green gizmos.

Sustainable development has three components — environmental responsibility, economic responsibility and social/cultural responsibility. The checklist approach of organizations such as the US Green Building Council and their LEED (Leadership in Energy and Environmental Design) certifi-

cations are measures of green buildings, NOT of sustainable development. To think that green building is all there is to sustainable development is like thinking that going to the dentist is all there is to health care — an important element but far from the whole picture.

Furthermore the green building approach focuses almost entirely on the annual energy use of a building, when, in fact, the energy expended to build the structure is 15 to 30 times the annual energy use. This is called *embodied energy* and is defined as the total expenditure of energy involved in the creation of the building and its constituent materials. None of the measurements of annual operating costs account for this embodied energy.

Windows are a great example. Some building materials salesperson peddles aluminum storm windows based on how much energy (and therefore money) will be saved if you install them. What the seller doesn't mention is that 30% of all those *lifetime warranty* windows are replaced within ten years. Nor is it mentioned that it takes 126 times as much energy to manufacture an aluminum window than repairing an existing wood window. Nor is it mentioned that only 10% of heat loss is through windows; the vast majority is through the roof and walls. Nor does the seller mention that adding just 3½ inches of cheap fiberglass insulation in the attic has three times the R factor impact as moving from the least energy efficient single pane window with no storm window to the most energy efficient window. Mike Jackson, FAIA, of the Illinois Historic Preservation Office puts it succinctly — “If it says, ‘maintenance free’ it means it can't be fixed.” And yet, millions of homeowners are spending billions of dollars, thinking they are being both frugal and environmentally sensitive, tearing out existing windows and replacing them with aluminum storm windows. In fact, they are being neither.

All of which means that those of us who care, not just about so-called green buildings, but about comprehensive sustainable development have a ways to go in telling our story.

But that is beginning to happen. A handful of architectural firms around the country are specializing in how to combine their

expertise in historic preservation with energy saving rehabilitation, many of these architects being LEED certified. A handful of planners and urban designers — Michael Mehaffy of the firm Tectics immediately comes to mind — have been thinking, writing and speaking about sustainability on this larger scale. This has led to the creation of the International Network for Traditional Building Architecture and Urbanism (INTBAU).

For half a century after World War II we in North America were told that technology had all the answers on how to build both buildings and cities, and that the 3,000 year history of how good cities and good buildings were built was now irrelevant. Instead we ended up with crappy buildings and crappy cities. And importantly in the context of this book, cities and buildings that were not remotely sustainable. So INTBAU and a new generation of architects, planners and preservationists are being humble enough to look for lessons of history rather than approaching the built environment with the excessive arrogance of technology.

Which is the real danger of the green gizmo approach not only to comprehensive sustainable development, but even to green buildings. I'm certainly no Luddite, and technology can certainly be part of the sustainable development equation — just not its entirety.

The major national environmental groups are still focused myopically on the environmental component of sustainable development, ignoring the economic and social/cultural aspects. The Nature

Conservancy recently tore down a 100-year-old warehouse building in Indianapolis in order to build a LEED certified, suburban-esque green gizmo building. But trickling up from the bottom there are some environmental journalists — Lloyd Alter of the online publication *Treehugger* and Knute Berger of *Crosscut.com* for example — who are clearly making the connection between historic preservation and sustainable development.

So, however small at the moment their numbers, we now have architects, planners and journalists (and even a few local politicians) who understand that sustainable development is much more than green buildings, and that the checklist approach to gizmo green does not sufficiently recognize the environmental contribution of existing buildings, particularly historic ones.

Now to this small but growing advocacy and practice group we can add Aaron Lubeck. This is a vitally important addition. There are those of us who think and write about these issues. There are architects and planners who specify what should be done. But with Aaron, we get a guy who is actually doing it — who is reinstalling claw foot bathtubs, who is repairing existing windows to make them energy efficient, who recognizes what are the important characteristics that need to be maintained in a historic home and which can be appropriately modified.

The architect Carl Elefante is the one who coined the phrase, “The greenest building is the one that isn’t torn down and hauled to the landfill.” And he’s right, of

course. But that doesn’t mean that historic buildings cannot or should not be improved in their energy efficiency. That is where this book makes a major contribution.

Green Restorations should be on the bookshelves of at least four groups: owners of historic homes; contractors who work on historic homes; preservationists who need to be better able to explain energy conservation options to owners of historic properties; and architects who are willing to learn from someone who actually hangs doors and installs flooring.

Every fifth grader learns that to save the environment we need to reduce, reuse and recycle. What does historic preservation do? Rehabilitation of historic buildings reduces the demand for land and new materials; reuses energy embodied in the existing materials, the labor, skills and the urban design principles of past generations and recycles the whole building. In fact, historic preservation is the ultimate in recycling.

Aaron’s book teaches us all how to do that.

The standard international definition of *sustainable development* is: the ability to meet our own needs without prejudicing the ability of future generations to meet their own needs. The rehabilitation of historic houses does just that. The demolition of historic buildings is the polar opposite of sustainable development; once they are razed they cannot possibly be available to meet the needs of future generations.

But that isn’t the only germane definition. Architect and urban designer Steve

Mouzon, founder of *The Original Green*, has identified the characteristics of sustainable buildings: lovable, durable, flexible and frugal. Aaron Lubeck's work in *Green Restorations* focuses on buildings that nearly always meet the *lovable* test — historic homes. He then identifies the ways to make sure that they remain durable and become flexible, with a constant eye toward the pocketbook — the frugality element of Mouzon's equation.

So go and buy a solar panel and a waterless toilet if it makes you feel good. But if you really want to be part of sustainable development rehabilitate an historic home. Aaron Lubeck will tell you how to do that.

Donovan Rypkema, Principal
PlaceEconomics
Washington, DC
December 2009